Volume 1: Research Component

Post-psychotic trauma: Contributory factors and interventions

Submitted by

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Overview

This thesis was submitted as part of the Doctorate in Clinical Psychology at the School of Psychology, University of Birmingham. It comprises of two volumes. The first volume is the research component and includes an empirical study and a review of the literature. The second volume is the clinical component and includes five clinical practice reports.

Volume I: Research Component

The literature review examines the high prevalence rate of posttraumatic stress disorder (PTSD) in people with a severe mental illness such as psychosis and discusses why such high rates may be found. There is anecdotal and empirical evidence that attests to the distressing nature of psychotic symptoms and treatment related experiences, including hospitalisation. The review looked at the contribution of such experiences in causing symptoms of PTSD. Interventions aimed at reducing symptoms of PTSD in people with a severe mental illness were then evaluated. It was concluded that the studies showed promising results in reducing PTSD symptoms, but the evidence base was still relatively small. Future research is needed to establish what interventions are effective and how established treatments for PTSD in other non-psychotic populations can be adapted to meet the needs of this vulnerable group.

The empirical paper presents a quantitative study that aimed to look at the relationship between post-psychotic trauma, shame and depression in a clinical sample of people with first episode psychosis. Symptoms of PTSD were assessed in relation to a traumatic event that had occurred during a previous psychotic episode. The study distinguished between different types of shame to look at their relationship with PTSD symptoms and depression, an area that had not been investigated before in this clinical sample. Participants were asked about their experiences of internal and external shame in relation to having a mental illness and general shame. Consistent with previous research a significant proportion of people had clinically significant levels of psychosis related PTSD symptoms and depression; with shame found to correlate with both. However internal shame was found to make a unique contribution to depression, whilst external and general shame made a unique contribution to PTSD symptoms. This has implications for future research by showing it is not enough to simply measure overall or global shame. It also highlights the need to develop interventions that address shame, depression and symptoms of trauma in people with first episode psychosis.

The paper is prepared for the submission to the journal *Clinical Psychology and Psychotherapy.*

Volume II: Clinical Component

The second volume of the thesis presents five clinical practice reports. Firstly, a case formulation from a cognitive behavioural and a systemic perspective are presented for an eleven year-old boy with anxiety related difficulties referred to a child and adolescent mental health service (CAMHS). Secondly, an audit was carried out to assess how well a CAMHS service met the guidelines set out by the National Institute for Clinical Excellence (NICE) when intervening with young people and adolescents diagnosed with an eating disorder. Thirdly, a case study is presented from predominantly a narrative perspective for a young woman with a learning disability who had relationship and anxiety related difficulties. In the forth report a single case experimental design was used to evaluate the effectiveness of a cognitive behavioural intervention for paranoid delusions with a man diagnosed with a psychotic disorder, who was under the care of an Early Intervention Service. Lastly an abstract is presented for a case study where cognitive analytic therapy (CAT) was used with a woman who presented with depression within a primary care setting.

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Literature Review

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Volume II Contents

Post-psychotic trauma: The role of symptoms, treatment related experiences and psychological interventions. A review of the literature.

Abstract

There is now a large body of research that demonstrates a high rate of posttraumatic stress disorder (PTSD) in people who have a severe mental illness (SMI) such as psychosis. This paper examines the prevalence rates of PTSD in people with SMI and discusses why such high rates might be found. There is a large body of anecdotal and empirical evidence that attests to the traumatic nature of psychotic symptoms and treatment related experiences, such as hospitalisation. A review of the literature was conducted to look at the contribution of such experiences to the development of PTSD and their validity as triggering events according to the Diagnostic and Statistical Manual of Mental Disorders 4th Edition, Text Revision (American Psychiatric Association, 2000). A second review of the literature was conducted that evaluates interventions specifically for PTSD in people who have SMI or psychosis. The evidence base is small and studies tend to adapt cognitive based interventions that have been found to be effective in other non-SMI populations. Recommendations are made for future research, including the need for more longitudinal, controlled studies of interventions that are adapted to meet the needs of people with a SMI such as psychosis.

Introduction

Over the last few years there has been a growing interest in the relationship between posttraumatic stress disorder (PTSD) and psychosis, with models being developed to explain their co-occurrence (Mueser, Rosenberg & Goodman, 2002; Frueh, Buckley, Cusack et al, 2004). An area that has received particular attention in the literature is how childhood trauma influences the later development of psychosis and subsequent PTSD (for a comprehensive review see Read, Van Os, Morrison and Ross, 2005). Research has also looked at the development of PTSD after the onset of psychosis, particularly at how symptoms or treatment experiences may contribute to PTSD. Morrison et al (2003) reviewed seven studies that addressed this question, however further research has been carried out since this time. Alongside these theoretical and empirical developments there has been a much smaller body of research that has focused on developing interventions for PTSD in people who have a severe mental illness (SMI). To date there has not been a review focusing on intervention studies for PTSD with this client group. This literature review explored the relationship between PTSD and psychosis by looking at three key areas. Firstly, it will examine the incidence of PTSD in people with psychosis. Secondly, it examined the potential contribution of symptoms and treatment experiences to the development of PTSD and in addition the validity of these experiences as triggering events for PTSD. Finally, a systematic review of the literature was conducted to look at recently developed interventions specifically for PTSD in people with SMI.

Trauma and PTSD in people with a severe mental illness such as psychosis.

Incidence of post-traumatic stress disorder in psychosis

A series of studies have investigated the prevalence of PTSD in people with SMI including psychosis. Results vary significantly with reported rates of PTSD between 0% (Tibbo, Swainson, Chue et al, 2003) and 75% (Rosenberg, Rosenberg, Wolford et al, 2000). Reviews of the literature also vary in their estimations dependant on the inclusion criteria used for the studies. Buckley, Millar, Lehrer and Castle (2008) identified a total of 20 studies that had reported on the general epidemiology of PTSD. They took a weighed average from the available data, estimating a 29% rate of co-morbid PTSD and psychosis. In this calculation they included two studies that found particularly low rates of PTSD symptoms; 0% (Tibbo et al, 2003) and 11% (Meyer, Taiminen, Vuori et al, 1999). Bendall, McGorry and Krstev (2006) note that these results are 'strikingly different' from those found by other studies, therefore including these in the analysis may have resulted in an underestimation of the rate. In their slightly earlier review Bendall et al (2006) conclude that the majority of studies found prevalence rates to be 'approximately 50%'. Studies of people with first episode psychosis have found a similar variation, with significant rates of PTSD symptoms between 31% (Jackson, Knott, Skeate, et al 2004) and 66% (Mueser, Lu, Rosenberg et al, 2010).

A significant amount of the variation between studies is likely to be due to methodological issues (Morrison et al, 2003). There is no standard assessment for PTSD, with some studies using different clinician administered assessments whilst others rely on self-report. The point of assessment also varies between studies, with some being conducted during an inpatient admission (e.g., Cascardi, Mueser, DeGiralomo et al, 1996) whilst others are taken at various points in recovery (e.g., McGorry, Chanen, McCarthy et al, 1991). There is also significant variation between the participants and the services from which they are recruited. Some studies include participants with a broader diagnosis of SMI that includes people with severe depression and bipolar disorder, whilst others include only those with schizophrenia. There is also no agreed definition of a traumatic event so some studies include a much broader range of events that occur at various stages in the person's life, with others choosing a more specific event. Whilst such issues need to be taken into account and caution applied when interpreting results from individual studies, the high prevalence rate of approximately one third to one half of people with psychosis having clinically significant symptoms of PTSD is generally

consistent. This is compared to the general population where the prevalence of PTSD is estimated to be 7 – 9% over the lifetime (Kessler, Burglund & Demler, et al 2005; Breslau, Davis, Andreski et al, 1991).

Exposure to traumatic events

Prior to Psychosis

The high incidence of PTSD symptoms in people with psychosis is believed to be partly associated with an increased exposure to traumatic events during the lifetime (Mueser et al, 2002). A well documented finding in the literature is the high rate of childhood abuse. In a recent review of studies conducted with people with psychotic disorders Morgan and Fisher (2007) found that 42% of females and 28% of males reported childhood sexual abuse (CSA), whilst 35% females and 38% males reported childhood physical abuse (CPA). Irrespective of gender, 50% of participants reported either childhood sexual or physical abuse. Bebbington, Bhugra, Brugha et al (2004) compared rates of CSA and CPA to those found in the general population using data from the second British National Survey of Psychiatric Morbidity. They found that people with psychosis were 15 times more likely to have experienced CSA and nine times more likely to have experienced physical abuse within the home (as a child or adult). Given the similarly high rates of CPA and CSA in people with personality disorders and depression, trauma is likely to be a generic risk factor in the development of psychopathology (Conus, Berk & Shafer, 2009).

Following Psychosis

There is also evidence that people with psychosis are at an increased risk of exposure to a traumatic event following the onset of their illness, compared with the general population. Tarrier, Khan, Cater et al (2007) looked at the consequences of suffering a first episode of psychosis. They found that 80% of people reported being traumatised as a result of the onset of their illness, with 38% meeting the criteria for PTSD. The trauma included suffering violence and harassment (38%), stigma (53%) and social exclusion (50%). Jankowski, Mueser and Rosenberg (2006) suggest that a number of environmental factors that are common consequences of suffering from a SMI (including housing instability, homelessness, engaging in risky behaviours and substance misuse) can increase the risk of exposure to trauma, violence or victimisation in this group. There is also evidence that people with a

severe mental illness are more likely to experience multiple traumas in their lifetime (Kilcommons & Morrison, 2005).

Outcome for people with psychosis and post-traumatic stress disorder

The high rates of trauma and PTSD in people with SMI has important clinical implications. Mueser et al (2002) hypothesise in their model that PTSD worsens the course of illness both directly and indirectly. They give an example of a direct effect with PTSD symptoms acting as stressors on SMI vulnerability, leading to more severe symptoms and increased relapses. An indirect effect would be the use of alcohol or other substances to cope with PTSD symptoms. Research evidence supports this with PTSD being related to more severe symptoms, higher rates of substance abuse, relapses and increased hospitalisations (Lommen & Restifo, 2009).

There are also important implications for services. Mueser, Rosenberg, Janowski et al (2004) report that patients with co-morbid PTSD were more frequent users of health and psychiatric services. Mueser and Rosenberg (2003) also found that they were less likely to engage with services, possibly because they wanted to avoid reminders of their illness. This may partly explain the higher use of services such as psychiatric hospitals, if they are less likely to seek help in the early stages of relapse. Despite the high rates of PTSD and evidence of poorer outcomes, people with SMI are not routinely assessed for PTSD. Mueser et al (2002) reported that the percentage of PTSD diagnosis or symptoms recorded in medical notes in a community service ranged between 0 and 3%.

Difficulties associated with the assessment of PTSD in people with psychosis

Morrison, Frame and Larkin (2003) reported that there is extensive overlap between the symptoms of PTSD and the symptoms of psychosis, which can make the assessment and diagnosis of each presentation difficult. Both disorders are characterised by intrusions; with unwanted flashbacks or memories of the traumatic event in PTSD and symptoms such as hallucinations in psychosis. Morrison et al (2003) also point out that the negative symptoms following psychosis such as loss of motivation and energy, reduced affect and reduced interest in previously pleasurable activities, can mimic the emotional numbing and avoidance that are part of the defining features of PTSD in the Diagnostic and Statistical Manual of

Mental Disorders 4th Edition, Text Revision (DSM-IV-TR, American Psychiatric Association (APA) 2000).

There is also evidence that psychotic symptoms can occur in people with a primary diagnosis of PTSD. In their recent review Braakman, Kortmann & Brink (2009) identified 24 studies that showed PTSD symptoms can precede psychotic features in some people. They concluded that these psychotic symptoms were not simply re-experiencing of previous traumas, but were independent of the PTSD and stable over time. They suggest that there is evidence to support a valid separate diagnostic entity of 'posttraumatic stress disorder with secondary psychotic features'.

Some researchers have raised concerns about the validity of accounts of traumatic events, especially the reports by adults of abuse that occurred in childhood (Brandon, Broakes, Glaser et al, 1998). These concerns could be even greater in people who have psychosis and experience delusions or other symptoms that may involve themes concerning abuse (Coverdale & Grunbaum, 1998). If true, this could partly explain the higher rates of PTSD in this group. However, these concerns are not supported by the research evidence that shows reports of trauma and abuse to be reliable and no different for people with psychosis than the general population (Read et al, 2005). In fact there is evidence to suggest that psychiatric patients have a tendency to under-report trauma and abuse (Read, 1997).

In summary

A substantial number of people with psychosis or SMI have been exposed to often multiple traumatic events. This population are more likely to have experienced abuse in childhood and it is argued that having a SMI makes them more vulnerable to exposure of traumatic events. Whilst there is considerable variability between studies, there is a growing consensus that between one third and one half of people with psychosis will also meet the criteria for PTSD. This is substantially higher then the general population. Assessment of PTSD in this group can be difficult due to potential symptom overlap and the lack of standardised assessments. Studies also show that PTSD is associated with a poorer prognosis and outcome in people with SMI, which impacts on clinical services. This highlights the necessity for the development of interventions for PTSD in people with SMI and psychosis.

Can psychosis and its treatment cause symptoms of PTSD?

Is psychosis a valid traumatic event for a diagnosis of PTSD?

Unlike other diagnosis in the DSM-IV-TR (APA, 2000) PTSD is defined as a disorder that arises following a specific traumatic event. It was initially developed to define the response to events "generally outside the range of human experience" (APA, 1980), such as a natural disaster or catastrophe. The definition of PTSD has evolved with each new edition of the DSM, becoming broader and therefore allowing more events to be incorporated, prompting research into PTSD following a wide range of experiences (Spitzer, First & Wakefield, 2007). The definition of trauma in the DSM and the events that can trigger it continues to be a hotly debated topic (Bodkin, 2007). Some researchers such as Rosen, Spitzer and McHugh (2008) argue against what they refer to as 'criterion creep' or the expansion of the PTSD model to include a wider array or events and human reactions. They argue that 'expected and understandable reactions' are now being referred to as symptoms, with increasing numbers of people receiving a PTSD diagnosis. Other researchers argue for a less restrictive definition, so that the focus is less on the specific nature of the event itself and more on the person's subjective experience of it (Maier, 2007).

To meet the criteria for PTSD according to the current DSM-IV-TR (APA, 2000);

"The person has been exposed to a traumatic event in which both the following were present:

> A1: The person experienced, witnessed or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of the self or others.
>
> A2: The person's response involved fear, helplessness, or horror"
>
> (pp. 427-428)

According to the criteria the event must be life threatening and the three symptom categories of PTSD; the re-experiencing of the trauma (Criterion B), increased arousal (Criterion C) and avoidance of trauma related stimuli (Criterion C), must refer to this event. The emphasis is clearly placed on threats to physical as opposed to psychological integrity (Jackson & Birchwood, 2006). By ignoring the psychological impact of events it has been argued that

some potentially traumatic stressors will be missed entirely. For example psychosis or the interpersonal trauma of childhood abuse may not be life-threatening in themselves, but they are nonetheless traumatic (Jackson et al, 2004). Given that the trauma associated with psychosis is likely to be from the perceived threat of symptoms (such as delusions or hallucinations) or treatment whilst unwell (such as police involvement or hospitalisation), the question of whether psychosis meets the DSM-IV-TR (2000) criteria is still under debate.

To investigate whether the symptoms of psychosis or treatment related experiences (including hospitalisation) can cause PTSD a review of the literature was conducted. The databases PsychINFO and Web of Science were searched using combinations of the following keywords; PTSD, posttraumatic, post traumatic, psychosis, schizophrenia, trauma and admissions. Articles and book chapters were also looked at to identify any additional references pertinent to the review. Inclusion criteria required studies to (1) assess PTSD in a population that includes people with a primary diagnosis of psychosis (2) assess symptoms of PTSD in relation to psychotic symptoms, hospitalisation or other experience directly related to psychosis. A total of 15 articles were identified, which are outlined in Table 1.

Table 1. *Studies investigating PTSD related to psychotic symptoms or treatment experiences.*

	Study	Population & diagnosis	Sample characteristics	Study / control Groups	Measure of trauma	Other measures	Percentage of sample reported to have PTSD	What PTSD was in relation too	Other outcomes
1	Mueser, Lu, Rosenberg et al (2010)	Inpatients. SMI - including schizophrenia, bipolar & major depression. 1 or 2 psychotic episodes. Most recent in past 6 weeks.	N = 38 Aged 14 – 30 Mean age = 22.5 Male = 26 Female = 12 1 or 2 hospital admissions	Three groups compared 1) full PTSD 2) PTSD syndrome 3) No PTSD No control	1) PATS 2) Clinician administered PTSD Scale 3) PDS - in relation to "most upsetting" symptom or / & admission	Traumatic life events Q BPRS BDI-II BAI Integration/ Sealing over scale (ISOS)	39% met 'full PTSD' including A1 & A2 criteria 66% 'PTSD syndrome' A1 & A2 criteria not met.	Most distressing; 53% psychosis 42% hospital & 5% both. Symptoms more likely to meet full PTSD criteria.	No differences in terms of functional impairment or distress dependent on whether the event met the A1/A2 or not.
2	White & Gumley (2009)	CMHT Schizophrenia Selected people who were experiencing distress related to illness	N = 27 Age 24 - 59 Mean age = 38.93 Male = 20 Female = 7 Mean admissions = 3.9	Compared people who met criteria for PTSD (n = 10) to those who did not (n = 17)	CAPS-S – completed in relation to 'worst moment' of illness. IES-R	PANSS, HADS Fear of recurrence scale, Beliefs about paranoia, Interpretation of voices scale, Intolerance of uncertainty scale	37% (n=10) met diagnostic criteria for PTSD	Not specified what event sample found traumatic	Those with PTSD had more anxiety, depression, negative symptoms, greater fear of relapse, intrusive thoughts about illness returning & intolerant of uncertainty.
3	Beattie, Shannon, Kavanagh et al (2009)	Discharged from inpatient facility within previous year. Schizophrenia, bipolar or delusional disorder.	N = 47 Mean age = 37.5 Male = 75% Female = 25% Mean admissions = 5.1	None	IES-R Completed in relation to most distressing symptom and most distressing admission	THQ, Childhood Trauma Q, Service attachment Q, Psychiatric assessment scale (KGV)	Prevalence of trauma 91.5% (n = 43) but does not state how many make diagnostic criteria for PTSD.	45% had moderate / severe PTSD in relation to psychosis & 31% to hospital Positive symptoms (voices) & 1st admission most distressing	Anxiety, depression & relationship with services correlated with PTSD. Factors related to admission inc use of MHA & coercion did not.

	Study	Population & diagnosis	Sample characteristics	Study / control Groups	Measure of trauma	Other measures	Percentage of sample reported to have PTSD	What PTSD was in relation too	Other outcomes
4	Chisholm, Freeman & Cooke (2006)	Admission to hospital or intensive home treatment in last 12 months. Now in remission. Schizophrenia or non-affective psychosis.	N = 36 Age 18 - 75 Mean age = 34.11 Male = 21 Female = 15 Mean admissions = 1.81 55.6% FEP	None	IES completed in relation to 'most difficult period' during episode	Crisis Support Scale, Perception of control, Perception of Helplessness, BPRS, SLES, Details of Threat Questionnaire.	61.1% moderate / severe PTSD	Treatment & symptoms not separated.	People with multiple episodes had higher PTSD than 1st episode. CSS & PHQ correlated with PTSD. Content of persecutory delusions was predictive of PTSD.
5	Freuh, Knapp, Cuscak, et al (2005)	Day hospital patients in America SMI - schizophrenia, bipolar & major depression. History of hospital admission	N = 142 Mean age = 46.2 Male = 80 Female = 62 Number of admissions not reported	None Random sampling	PTSD checklist (PCL) In relation to any past traumatic event	Psychiatric experiences Q, Trauma assessment for adults	Lifetime exposure to trauma 87% (n = 123) Current PTSD 19% (n = 27)	31% had experienced physical assault, 8% sexual assault & 63% had witnessed traumatic event. Rates of seclusion (59%) & restraint (34%)	Those with PTSD reported feeling less safe, more fearful & distressed in hospital.
6	Harrison & Fowler (2004)	CMHT schizophrenia, In recovery with 'few positive symptoms'	N = 38 Age 18 - 65 Mean age = 36. Male = 30 Female = 8 Mean admissions = 5.1	None	IES-R	Autobiographical memory test, PANSS, Calgary depression scale.	Not specified but reported 'few' would meet PTSD criteria	More participants traumatised by symptoms than hospital	Those who avoided traumatic memories related to psychosis had more negative symptoms.

	Study	Population & diagnosis	Sample characteristics	Study / control Groups	Measure of trauma	Other measures	Percentage of sample reported to have PTSD	What PTSD was in relation too	Other outcomes
7	Jackson, Knott, Skeate et al (2004)	Early Intervention Service Assessed aprox 18 months after first episode of psychosis	N = 35 Age 18 - 35 Mean age = 25.8 Male = 26 Female = 9 None or 1 hospital admission	None	Modified version of PTSD scale IES In relation to overall experience of psychosis / treatment	PANSS, HADS, Hospital Experiences Q, Recovery style Questionnaire, Psychiatric assessment scale (KGV)	31% made diagnostic criteria for PTSD	Not looked at separately	Anxiety but not depression higher in PTSD group. No correlation with duration of untreated psychosis, admission, use of MHA, police involvement or symptoms. Perceived stress on ward higher in those with PTSD.
8	Shaw, McFarlane, Brookles et al (2002)	Inpatients Psychosis, bipolar, or other psychotic illness Same sample as in 1997 study.	N = 42 See Shaw et al (1997) below.	None	CAPS done in relation to psychosis or hospital AND all other past traumatic events, IES, SASRQ.	BPRS, CIDI, Insight scale Hospital, Treatment Experiences list	N = 11 had PTSD not related to psychosis. N = 22 PTSD in relation to psychosis. All had at least 1 traumatic event as defined by DSM. Multiple trauma rate high.	N = 42 reported at least one hospital / symptom related trauma. Of them 52.3% (n=22) met PTSD criteria	PTSD not related to insight, number of admissions, involuntary status, number of traumas, duration or age of illness onset. Relationship with some symptoms including persecutory delusions & to increased distress associated with symptoms & hospital.

	Study	Population & diagnosis	Sample characteristics	Study / control Groups	Measure of trauma	Other measures	Percentage of sample reported to have PTSD	What PTSD was in relation too	Other outcomes
9	Kennedy, Dhaliwal, Pedley et al (2002)	Schizophrenia or bipolar Presence of hallucinations or delusions Those with past history of sexual or physical abuse or war excluded.	N = 50 Mean age = 35.2 schizophrenia 42.4 bipolar Male = 22 Female = 28 Mean admissions not reported	None	PENN PTSD inventory completed in relation to delusion or hallucination	BDI-II IES-R. Used as a measure of "Stress & anxiety"	40% of people with bipolar and 23% with schizophrenia met PTSD criteria.	Hallucinations & delusions identified as traumatic events in 60% of subjects with schizophrenia, but only 15% with bipolar	Depression highly correlated with PTSD
10	Frame and Morrison (2001)	Inpatients	N = 60 Male = 37 Female = 23 Mean age or admissions not reported	None	Not specified	Not specified	67% at hospital discharge & 50% at 4-6 month follow up	Together account for 60% of variance. Psychosis 24% & hospitalisation 7% of unique variance	Compulsory admission did not affect PTSD scores.
11	Meyer, Taiminen, Vuori et al (1999)	Inpatients in Finland Schizophrenia or delusional disorder	N = 46 Age 21 – 63 Mean age = 40.8 Male = 18 Female = 28 Mean admissions = 5.1	None Assessed at 1 week & 8 week after admission	IES-R (week 1 & 8) CAPS (week 8)	PANSS	11% met criteria for PTSD	11 % (n=5) PTSD related to symptoms & 7% (n=3) combination of symptoms & coercive measures. Symptoms more traumatic	No relationship to involuntary admission, number or type of coercive measure. Positive symptoms correlated with PTSD at weeks 1 & 8.

	Study	Population & diagnosis	Sample characteristics	Study / control Groups	Measure of trauma	Other measures	Percentage of sample reported to have PTSD	What PTSD was in relation too	Other outcomes
12	Morrison, Bowe, Larkin, et al (1999)	Names selected from admission records at acute hospital – diagnosis not specified	N = 34 Mean age = 45. Male = 18 Female = 12 not known = 4 Mean admissions = 4.3	None Random sample	IES	Hospitalisation experiences Questionnaire, HAD.	General rate not looked at.	44% PTSD prevalence (n=15) related to most recent admission.	No association between PTSD & num, duration, compulsory admissions. No sig association with emotional response to admission.
13	Priebe, Broker & Gunkel (1998)	'Community-care system' Germany Schizophrenia	N = 105 Mean age = 38.6. Male = 55.2% Female = 44.8% Mean admissions = 5.7	None	The PTSD interview	BPRS Present State Examination	51% (n=54) met criteria for PTSD.	Related to involuntary admission or if they had not had one another negative aspect of treatment.	Those with PTSD more likely to be un-employed. PTSD correlated with overall severity of symptoms, especially anxiety & depression. Not associated with num or status of admissions.
14	Shaw, McFarlane, & Brookles (1997)	Inpatients. Psychosis, bipolar, or other psychotic illness.	N = 45 Aged 16 - 65 Mean age = 29.8 Male = 29 Female = 16 Mean admissions = 5.02	None	CAPS IES	BPRS, Hospital experiences Scale, CIDI	52.3% (n=22) met PTSD criteria	All reported at least one hospital / symptom related trauma. Not assessed separately.	Certain symptoms such as being controlled and paranoid delusions were associated with some PTSD subscales.

	Study	Population & diagnosis	Sample characteristics	Study / control Groups	Measure of trauma	Other measures	Percentage of sample reported to have PTSD	What PTSD was in relation too	Other outcomes
15	McGorry, Chanen, McCarthy et al (1991)	Inpatients Schizophrenia or bipolar disorder	N = 36 Mean age = 25.4 Male = 26 Female = 10 Mean admissions = 1.75	None Follow up 4 & 11 months after discharge	PTSD Scale IES	BDI SANS	46% PTSD prevalence 35% at 11 months follow up	PTSD reported more frequently with hospitalisation than symptoms.	PTSD correlated with depression but not negative symptoms.

Key: BDI = Beck Depression Inventory, BPRS = Brief Psychiatric Rating Scale, CAPS-S = Clinician-Administered Posttraumatic stress disorder Scale. Modified for use with people with schizophrenia, CIDI = Composite International Diagnostic Instrument, HADS = Hospital Anxiety and Depression Scale, IES-R = Impact of Events Scale Revised, PANSS = Positive and Negative Syndrome Scale, PATS = PTSD assessment tool for schizophrenia, PDS = Posttraumatic diagnostic scale, SANS = Scale for the assessment of negative symptoms, SASRQ = Stanford Acute Stress Reaction Questionnaire, SLES = Stressful Life Experiences Scale, THQ = Trauma History Questionnaire.

Overview

As shown in Table 1 the prevalence rates of PTSD relating to a SMI including psychosis or its treatment vary considerably, ranging from 11% (11) to 67% (10). The conclusions drawn about which factors are more strongly linked with PTSD also differs between studies. It is important to establish whether psychosis related experiences can cause PTSD, because if this is not the case then it will be difficult to argue that psychosis should qualify as a traumatic event in the DSM-IV-TR (Jackson & Birchwood, 2006). It also has important clinical implications in terms of intervention. Whilst it is clear that many people who have had psychosis will also experience symptoms of PTSD, it is less clear what it is about the illness that is traumatic. Bendall, McGorry and Krstev (2006) suggest that the main candidate traumas are the symptoms of psychosis or the experience of treatment. More recent research has also begun to look at other mediating variables, such as how a person appraises their illness. These three areas will be addressed in the following sections.

Psychotic symptoms as traumatic events

Positive Symptoms

Case studies and first person accounts of the experience of psychosis illustrate the distressing nature of psychotic symptoms. Auditory hallucinations may involve critical and commanding voices telling the person to harm or kill themselves (Trower, Birchwood, Meaden et al, 2004). Persecutory delusions often involve threats from powerful entities such as the devil or government agencies that are monitoring and wishing to harm the individual. These are beliefs that are held with a strong level of conviction and are associated with fear and high levels of distress (Freeman & Garety, 2004). Therefore whilst there is anecdotal evidence that symptoms of psychosis can be traumatising, their contribution to the development of PTSD is less clear. This will now be examined.

Ten of the studies listed in Table 1 have investigated psychotic symptoms as a triggering event for PTSD (1, 3, 4, 6, 7, 9, 10, 11, 14 & 15). All of the studies reported high levels of trauma associated with positive symptoms and correlations with PTSD. Some of the studies looked at the overall experience of a psychotic episode as a traumatic event, whilst others looked specifically at what symptoms people found distressing (1, 3, 4 & 9). Mueser et al (2010) found that over half of people reported paranoid thoughts, a fear of losing their mind,

violent or embarrassing behaviour as their most distressing symptom. Frightening hallucinations were also identified by one third of participants. Beattie et al (2009) found that auditory hallucinations were reported to be the most distressing. Kennedy et al found that 60% of people with schizophrenia identified hallucinations and delusions as the most traumatic symptom and exhibited symptoms of PTSD in relation to them. Chisholm et al (2006) focused on the relationship between persecutory delusions and PTSD. They argue that at the simplest level persecutory delusions may be more likely to cause PTSD because they are inherently about threat (Freeman & Garety, 2000). However not all people with persecutory delusions develop PTSD, so they looked to see what aspects of the delusion are associated with PTSD. They found that the presence of a persecutory delusion alone was not enough to predict PTSD, but higher levels of PTSD were associated with a higher perception of the omnipotence of the persecutor, a greater sense of threat, inability to cope and believing the persecution to be deserved.

Eleven of the studies include participants that have a primary diagnosis other then schizophrenia (1, 3, 5, 8, 9, 10, 12, 13 & 14). Some include people with a broader diagnostic category of SMI; including bipolar and major depression. Kennedy et al (2002) is the only study to investigate diagnostic differences. They found that 60% of people with psychosis reported positive symptoms as traumatic, compared to only 15% with bipolar disorder. This could have important implications for research and the focus of the interventions with each population. It is evident that people report positive psychotic symptoms as traumatising and some will experience symptoms of PTSD in relation to them, however more research is needed into mediating factors.

Negative Symptoms

To date five studies (2, 6, 11, 13 & 15) have investigated the links between negative psychotic symptoms and post-psychotic PTSD, with the earliest studies reporting no relationship (11, 13 & 15). White and Gumley (2009) found that those who had PTSD had more negative symptoms than controls, although the sample was small and when the significance level was made more stringent ($p<.001$) the result was no longer significant. Harrison and Fowler (2004) found that those participants who avoided traumatic memories related to their illness had more negative symptoms. McGorry et al (1991) found that negative symptoms had increased at the 11 month follow up in people who had PTSD, suggesting that the relationship

may be sequential. The lack of a clear and consistent link between negative symptoms and PTSD suggests the relationship may be more complex and that further longitudinal research is needed.

Treatment experiences as a traumatic event

The traumatic nature of hospital admission and the negative impact it can have on people with mental health problems has been well documented (Bendall et al, 2006). Treatment can include seclusion, restraint, enforced medication, the involvement of police in detention and transport to the hospital and involuntary admission (Frueh et al, 2005). Some researchers have argued that treating hospitalisation and treatment experiences as Criterion A events are less controversial because such experiences may present actual threats to physical integrity (Bendall et al, 2006). Frueh et al (2005) found that 31% of people had experienced a physical assault, 8% a sexual assault and 64% had witnessed a traumatic event that had occurred within a psychiatric setting in America. Mueser et al (2010) found that the most distressing treatment experience endorsed by 71% of participants was being forcibly taken to hospital, whilst other common negative experiences included medication side effects (45%) or being threatened by the treatment provider (22%).

The traumatic nature of specific coercive treatments, particularly seclusion and restraint, has also been well documented (Tilman, Bergbauer, Schmid, et al 2007). The use of high levels of such measures in psychiatric hospitals is consistently reported, with 50% of people experiencing either seclusion or restraint in Mueser et al's study (2010) and Frueh et al (2005) reporting that 59% of patients had experienced seclusion, 34% restraint and 34% had been 'taken down' by staff or police. Some studies have found that men are more likely to experience coercive experiences than women (Steinert, Bergbauer, Schmid et al 2007). Such measures may be particularly traumatic for individuals with a history of sexual abuse as they may recapitulate previous traumatic experiences (Gallop, McCay & Guha, 1999).

A total of ten studies in Table 1 looked at the relationship between treatment experiences, including hospitalisation and PTSD (1, 3, 5, 6, 10, 11, 12, 13, 14 & 15). Two of these studies specifically limited the triggering event to a psychiatric admission (12, 13). Morrison et al (1999) report a PTSD rate of 44%; however they sent out measures to their participants in the post and reported an especially low response rate suggesting that their sample may not be

representative. Priebe et al (1998) used a much larger community sample in Germany and reported a slightly higher rate of 51%. In the other studies where PTSD is also looked at in relation to treatment and other factors, prevalence rates related to hospitalisation vary between 31% (3) and 42% (1). The point of assessment differs between studies, with some taken during the inpatient admission and others at various points following discharge. McGorry et al (1991) found that PTSD decreased from 46% during admission to 35% at eleven months follow up, suggesting that time of assessment will account for some of the variability between studies. Some of the studies assessed how traumatic the experience of hospitalisation was as a whole, whilst others asked participants specifically what they found to be traumatic. As previously discussed, high rates of coercive treatment measures such as seclusion and restraint were reported. Higher rates of PTSD were reported in patients where coercive measures had been used (1, 5 & 11).

Studies have also looked at the relationship between PTSD and objective experiences of treatment. No relationship has been found between the nature of admission status (compulsory or voluntary) and the use of the Mental Health Act (1983; 2007) with PTSD (7, 10, 11 & 13). This suggests that it is not the involuntary nature of hospital admission that is traumatic for people with psychosis. The duration or the total number of admissions has also consistently been shown not to correlate with PTSD (12, 13). Beattie et al (2009) were unique in their study because they asked participants to identify what hospital admission they found the most distressing, with the majority (66%) reporting their first admission. It has been argued by some researchers that the challenge to the sense of self presented by the first episode of psychosis means that it exerts the most emotional impact (Mueser & Rosenberg, 2003). Other researchers have argued for a more cumulative traumatic effect, with the more psychotic episodes an individual experiences the more likely they are to develop PTSD. Chisholm et al (2006) found support for this with those who had experienced multiple episodes having a significantly greater level of PTSD than those with only one episode or hospital admission.

Relative contributions

The majority of studies have found that symptoms of psychosis are experienced as more traumatic and have a stronger relationship with PTSD than treatment related experiences (1, 3, 6, 10 & 11). Only one early study by McGorry et al (1991) found that hospitalisation was

more traumatic, although this study had a relatively small sample size and relied on self reported events whilst the participant was still an inpatient. Using hierarchical regression analysis, Frame and Morrison (2001) found that hospital experiences accounted for only 7% of the unique variance in PTSD symptoms after controlling for the contribution of psychotic experiences, which in turn accounted for 24% unique variance. Harrison and Fowler (2004) reported that clients from a CMHT not only reported more traumatic symptoms in relation to their psychotic experience than they did to hospitalisation, but these symptoms were more severe. Some researchers have argued that it is not possible to separate out the relative contribution of treatment and symptoms towards post-psychotic PTSD because they occur at the same time (4, 8, 14).

The studies listed in Table 1 do not control for the influence of other traumatic events on the symptoms of PTSD. As previously reported the population is likely to have experienced multiple traumas, but it is not known if there is a cumulative effect or what impact the earlier trauma may have on the development of post-psychotic PTSD. Some studies try to separate out the contribution of different variables by repeating multiple measures of PTSD for different traumatic measures (for example Shaw et al, 2002, 1997). Morrison et al (2003) suggest that these multiple measures may have been 'confusing' for some participants.

Mediating Factors

It is clear that symptoms of psychosis and its treatment can be extremely distressing; however exposure to a traumatic event alone is not sufficient for the development of PTSD (Jackson et al, 2004). More recent research has begun to focus on looking at mediating factors between the traumatic event and PTSD. There appears to be clear evidence for an association between increased symptoms of post-psychotic PTSD and depression (2, 3, 6, 8, 9, 12, 13 & 14). It has been suggested that there is some overlap between the two disorders, which may account for the high co-morbidity (Beattie et al, 2009). Other affective responses such as anxiety have also been shown to be highly correlated with PTSD (3, 7, 13) although this is perhaps less surprising due to symptom overlap.

Role of Appraisals

It could be that focusing on objective features of treatment and specific symptoms may not be the most helpful. Some studies have found a link between how a person appraises their illness

and PTSD (7, 8, 14). Frueh et al (2005) found that participants who met the criteria for PTSD were more likely to report feeling unsafe, fearful and distressed whilst they were an inpatient. Shaw et al (2002) also found that those with PTSD reported higher distress in association with their admissions. Similarly, Jackson et al (2004) found that those who reported their inpatient stay as 'stressful' were more likely to develop PTSD as a result. Chisholm et al (2006) found that an increased perception of helplessness and reduced sense of control and crisis support at the time the participant was unwell was correlated with an increase in symptoms of PTSD. White and Gumley (2009) found that participants with PTSD had a significantly greater fear of relapse and had more intrusive thoughts about their illness returning. The findings are consistent with Ehlers and Clark's (2000) model of PTSD whereby negative appraisals of a traumatic event or its sequelae function to maintain symptoms of PTSD by maintaining a current sense of threat. These findings reflect a shift in the PTSD literature as a whole, as research moves away from more externally focused events to internal emotions and appraisals.

Recovery style

Two studies in Table 1 looked at how a participant's coping style influences PTSD (1 & 7). According to McGlashan, Levy and Carpenter (1975) clients predominantly adopt one of two opposing recovery styles to deal with their psychotic experience. Those that adopt a 'sealing over' style isolate their experience, viewing it as alien and incompatible with their life goals and sense of self. Alternately, those that adopt an 'integrative' recovery style seek to explore and understand their psychosis in terms of their life development, integrating it into their experience. Mueser et al (2010) found that participants with clinically significant PTSD symptoms were more likely to have an integrative recovery style, than those without. However, in this study the interviewer rated what they thought the participant's style was following the assessments. Jackson et al (2004) asked participants to fill out Recovery Style Questionnaire (McGlashan, 1987) and found no difference in terms of recovery style with regards to PTSD diagnosis. However, they did find that 'sealers' were significantly more likely to avoid intrusions associated with their psychosis. This would fit with McGlashan's theory as sealers by definition avoid thinking about their psychotic episode. This has important clinical implications, with a sealing over recovery style shown to predict poorer engagement with services (Tait, Birchwood & Trower, 2003) and psychological therapy (Startup, Wilding & Startup, 2006). Consistent with this, Bernard, Jackson and Jones (2006)

found that the majority of people (87%) who took part in their research about the impact of written emotional disclosure on PTSD symptoms had an integrative recovery style. This has implications for research as it may suggest that integrators are more likely to participate, which could introduce bias into the results if the sample is not representative.

The DSM-IV-TR Criteria Debate

As previously discussed in order to obtain a diagnosis of PTSD people must meet a number of criteria. We have seen that people with psychosis have high levels of PTSD symptoms (hyper-arousal, intrusions and avoidance) in relation to psychotic symptoms and treatment. However, whether these experiences are traumatic enough to meet Criteria A has been a controversial issue over the last 20 years since the first study by McGorry et al (1991). A recent study aimed to resolve this debate. Mueser et al (2010) classified participants with recent onset psychosis who had recently been discharged from an inpatient unit into two groups, dependant on whether or not the distressing event related to psychosis or its treatment met the A1 and A2 criterion. They found that 39% of the sample met diagnostic criteria for PTSD including A1/A2. This increased to 66%, regardless of whether the triggering event met A1/A2. Participants completed measures including in relation to PTSD symptoms, anxiety and depression. Mueser at al (2010) concluded that requiring the event to meet A1 and A2 criteria "does not lead to identifying a more distressed or functionally impaired group of clients with PTSD than if the criterion is ignored" (pg 225). They suggest that by insisting that the strict criterion is applied a substantial group of people who have symptoms of PTSD, are distressed and functionally impaired will be potentially missed and their trauma symptoms will remain untreated.

Conclusion

The traumatic nature of psychotic symptoms and hospitalisation, particularly coercive treatment experiences has been well documented. However, there does not appear to be a clear and consistent link between objective features of treatment or specific symptoms and the development of PTSD. Some research has suggested that appraisals of symptoms or treatment are better predictive factors of PTSD and future research will need to address specifically what appraisals are important. It remains unclear whether trauma exposure prior to the onset of psychosis influences the extent to which people experience PTSD symptoms secondary to the onset of psychotic symptoms or treatment experiences. This is an area that future research

needs to address. Research has found that traumatic and harmful experiences occur to a large number of people within psychiatric settings and that such experiences are associated with psychological distress. This has important implications for clinical services and their management with some researchers arguing for an urgent review of commonly used practices such as seclusion and restraint (Steinert, et al 2007).

In addition, the issue of whether or not psychosis meets the DSM-IV-TR (2000) criteria for a traumatic event that can cause PTSD has caused controversy. Some researchers have argued that the definition of trauma should change to include threats to psychological integrity (Maier, 2007). Mueser et al (2010) have gone some way to resolve this debate by showing that the levels of distress and functional impairment do not differ between groups, dependent on if the psychosis related traumatic event meets Criterion A. The implications for adhering strictly to the DSM-IV-TR (2000) criteria may mean that genuine traumatic symptoms are missed and not treated. This could have a profound implication for the trajectory of the illness and the person's recovery.

Psychological Interventions for posttraumatic stress disorder in people with psychosis.

Overview

The literature on psychological interventions for PTSD in the general population is in the relatively early stages of development when compared to other psychiatric disorders (Frueh et al, 2004). Although a range of interventions have been suggested, cognitive behavioural therapy (CBT) has been the most well researched and developed the strongest evidence base. International evidence based treatment guidelines for PTSD reflect this and are focused on cognitive behavioural interventions (Ehlers, Bisson, Clark et al, 2010). In a recent Cochrane review, Bisson and Andrew (2009) identified 33 randomised control trials (RCTs) that looked at the efficacy of psychological therapies in the treatment of PTSD. They concluded that trauma focused CBT and eye movement desensitisation and reprocessing (EMDR) were the most effective treatments, although the longest follow up period was only 5 months so the longer term efficacy is not known. The review did not separate out the studies in terms of what particular cognitive strategies were used and found to be effective, but research has predominantly focused on exposure based therapies or cognitive restructuring. Both have received strong empirical support in the general population (see Harvey, Hall & Tarrier, 2003 for a review of CBT for PTSD).

Research has focused on PTSD in the general or veteran populations where help is sought for a specific traumatic experience, with very few studies looking at interventions for people with a mental illness. Psychological adjustment following an episode of psychosis is recognised as an important but poorly researched area (Jackson, Trower Read, et al 2009). Birchwood (2003) argues that many people will struggle to adjust to the psychological impact of such an event and the diagnosis they receive, with a significant number going on to develop emotional disorders such as anxiety, depression, PTSD, social anxiety and low self-esteem. He contends that whilst it is tempting to characterise such emotional problems as part of psychosis and to treat them as such, it is important to recognise that for some people more targeted interventions are needed. Mueser et al (2002) agree with this and highlight the complex needs that people with SMI have that can present challenges to treatment. This includes functional impairments that can lead to difficulties with work, poor social support, difficulties with housing and economic resources, as well as psychotic symptoms or fluctuating mood. They

argue that treatment programmes for PTSD need to take into account the 'high vulnerability' and complex needs of such clients.

To investigate what psychological interventions are available specifically for people with psychosis and PTSD, a review of the literature was conducted. The databases PsychINFO and Web of Science were searched using combinations of the following keywords; PTSD, posttraumatic stress, post traumatic stress, psychosis, schizophrenia, interventions and treatments. Articles were also scanned to identify any additional references pertinent to the review. Inclusion criteria required studies to (1) be an intervention specifically aimed to reduce PTSD or its symptoms and (2) intervene with people with a primary diagnosis of a psychotic disorder. A total of six studies were identified. A second literature search was then conducted with the same inclusion criteria but for people with a diagnosis of a severe mental illness, which includes people with psychosis but also would include people with bipolar disorder or severe depression. A further four studies were identified. Studies were excluded if (1) the intervention was not primarily aimed at reducing symptoms of PTSD, for example intervention studies to reduce the positive symptoms of psychosis or emotional dysfunction in general (2) if they were not published in a peer reviewed journal. The 10 articles that were identified are described in Table 2. In total two studies were RCTs (A, C), three were pilot studies (B, F, I), two were cohort studies (E, G) and three were case studies (D, H & J).

Table 2. *Intervention studies for PTSD in people with SMI including psychosis.*

	Study	Sample Diagnosis	Trauma type & prevalence	Control group	Type of Intervention & Duration	Attrition rate and Blinding	Primary Measures	Follow up period	Outcome
A	Jackson, Trower, Read, et al (2009)	N = 66 First episode of psychosis in previous 6 - 18 months. Aged between 16 - 35. Mean age = 23.3	Trauma symptoms assessed in relation to the episode of psychosis. 23% (n=15) 'strong indication' met PTSD criteria.	Treatment as usual (TRU, n=30) compared with CRI plus TAU (n=36). Randomly allocated to each group.	A form of CBT: Cognitive recovery intervention (CRI). Key components (1) engagement & formulation (2) trauma processing (3) appraisal of psychotic illness inc. shame, loss & entrapment. Weekly over 6 months.	Single blind-researcher blind 20 people dropped out, 13 from treatment group.	IES, Calgary depression scale, Robson self concept questionnaire	Pre & post –therapy. Follow up 6 months.	Intervention reduced trauma, but not depression or self-esteem. Those with highest IES scores benefited more.
B	Frueh, Grubaugh, Cusack, et al (2009)	N = 20 Schizophrenia / schizoaffective disorder. All PTSD diagnosis. Rehabilitation day centre or outpatient clinic. Severe impairment. Mean age = 41.1	PTSD following trauma in childhood or adulthood. Not specified what PTSD was in relation too.	No control group	CBT manual. Primary component was exposure. Also included social skills training. 22 sessions; group & individual over 11 week period.	65% completion rate (n = 13) Only these included in analysis. 35% drop out rate. No blinding.	CAPS, Trauma assessment for adults, PTSD checklist, HAM-A, HAM-D.	3 month follow up	Reduced PTSD symptoms. At follow up 10 / 13 no longer met criteria for PTSD. No change in depression, anxiety or general functioning.
C	Mueser, Hamblen & Rosenberg (2008)	N = 108 All PTSD diagnosis. SMI. 85% major mood disorder, 15% schizophrenia / schizoaffective disorder. United States community mental health centre (CMHC). Mean age = 42.2.	PTSD as a result of any trauma in childhood or adulthood. Most common was CSA.	TAU from CMHC. Random allocation. TAU (N = 54) compared to TRU plus TRG (N = 54)	Based on Mueser et al (2007) Trauma Recovery Group. 12 – 16 Individual sessions. Primary component was cognitive restructuring (12 sessions).	Single blinding – researcher blind. 19% drop out rate.	CAPS, CTQ, THQ, Post-traumatic Cognitions Inventory, PTSD Knowledge Test, BAI, BDI, BPRS, Working alliance Inventory.	Pre & post –therapy. Follow up 3 & 6 months.	Intervention reduced PTSD symptoms (but not diagnosis), anxiety & depression. Improved working alliance. Those with higher PTSD benefited most.

	Study	Sample Diagnosis	Trauma type & prevalence	Control group	Type of Intervention & Duration	Attrition rate and Blinding	Primary Measures	Follow up period	Outcome
D	Kevan, Gumley & Coletta (2007)	Single case study. 31 year old female with schizophrenia. Community mental health team (CMHT).	PTSD in relation to a burglary.	None	Written elaboration of trauma memory and cognitive restructuring. 7 weekly sessions.	N/A	Daily self-report rating scales for SUDS, degree of conviction & severity of intrusions. Pre & post BDI, PTCI, PDS.	1 month	No longer met criteria for PTSD. Reduction in depression, num & severity of PTSD symptoms & PTCI scores. No statistical analysis.
E	Trappler & Newville (2007)	N = 24. Diagnosis of 'Chronic' schizophrenia or schizoaffective disorder & PTSD. Inpatients in America.	PTSD in relation to past abuse. Not specified what. Implied multiple traumas.	Control group matched on age & diagnosis. Control received 'supportive psycho-therapy'.	CBT "Skills Training in Affect Regulation Group". Primary component was emotional regulation skills. 12 weekly sessions.	Not recorded.	IES BPRS	None.	Reduction in overall psychotic symptoms & PTSD in CBT group only. Both groups improved for anxiety & depression.
F	Mueser, Bolton, Carty, et al (2007)	N = 41. All PTSD diagnosis. SMI: 20% depression, 35% PD, 9% bipolar, 12% schizophrenia / schizoaffective disorder & 24% 'other'. United States CMHC. Mean age = 42.87.	Trauma in relation to any childhood or adult event. 'Attacked with intent to kill' most prevalent. Many had multiple traumas.	No control group	Pilot of the Trauma Recovery Group. 21 sessions, content as above but with recovery plan & coping with symptoms. Results presented from 11 groups.	41 % drop out rate. No blinding.	THQ, PTSD checklist (PCL), PTSD Knowledge Test, Post-Traumatic Cognitions Inventory (PTCI), BDI.	Pre & post –therapy. Follow up 3 months.	Intervention reduced PTSD symptoms & diagnosis, depression & trauma related cognitions.

	Study	Sample Diagnosis	Trauma type & prevalence	Control group	Type of Intervention & Duration	Attrition rate and Blinding	Primary Measures	Follow up period	Outcome
G	Bernard, Jackson & Jones (2006)	N = 22 First episode psychosis. Mean age = 24.73.	Trauma in relation to 'most stressful or distressing aspect of illness or treatment'. 13 met criteria for PTSD.	N = 12 wrote about their illness. N = 10 wrote about neutral topic. Random allocation.	Written emotional disclosure. Three sessions of 15 minutes each.	4% (1 person) attrition rate. No blinding.	IES-R, Recovery style Q, Insight scale, HADS, Positive and Negative Affect Schedule.	4 – 6 weeks.	Reduction in severity of traumatic symptoms in experimental group but not control. No effect on anxiety, depression or insight.
H	Callcott, Standart & Turkington, (2004)	2 case studies. Diagnosed with PTSD and schizophrenia. Both female aged 45 & 34.	Case 1 = physical abuse Case 2 = childhood sexual abuse	None	Case 1 = CBT for PTSD, inc reliving & reducing safety behaviours. 12 sessions. Case 2 = CBT reliving & image manipulation. 17 sessions.	N/A	Case 1 = IES & BDI. Case 2 = IES, SANS & CPRS.	None	Case 1 =Reduction on both measures. Case 2 = reduction on all measures. No statistical analysis in either case.
I	Rosenberg, Mueser, Jankowski, et al (2004)	N = 22. All PTSD diagnosis SMI. Major depression, bipolar or schizophrenia / schizoaffective disorder. United States CMHC or veterans. Mean age = 48.	Trauma in relation to any childhood or adult event. Many multiple traumas.	None.	Individual 12 – 16 week, manualised CBT programme. Primary component was cognitive restructuring.	14 % drop out rate. 12 completed treatment & follow up & are inc in analysis. No blinding.	CAPS, BPRS, THQ, Revised Conflict Tactic Scale	Pre & post –therapy. Follow up 3 months.	Significant improvement in PTSD symptoms. Diagnosis reduced to 50% at follow up. No psychotic symptom change.

	Study	Sample Diagnosis	Trauma type & prevalence	Control group	Type of Intervention & Duration	Attrition rate and Blinding	Primary Measures	Follow up period	Outcome
J	Hamblen, Jankowski, Rosenberg & Mueser, 2004)	3 case studies. All PTSD. 1 bipolar, 2 schizoaffective. 2 men were both veterans. 1 woman from mental health team.	All had multiple adult and childhood traumas.	None.	Completed the treatment programme in Rosenberg et al (2004) study.	All completed treatment.	CAPS, BPRS.	Pre & post –therapy. Follow up 3 months.	All had clinically significant reduction in PTSD symptoms. 2 no longer met PTSD criteria.

Key: BAI = Beck Anxiety Inventory, BDI = Beck Depression Inventory, BPRS = Brief Psychiatric Rating Scale, CAPS = Clinician Administered PTSD Scale, CPRS = Comprehensive Psychopathological Rating Scale, HAM-A = Hamilton Rating Scale for Anxiety, HAM-D = Hamilton Rating Scale for Depression, IES = Impact of Events Scale, PDS = Post-Traumatic Stress Diagnostic Scale, PTCI = Post-traumatic Cognitions Inventory, THQ = Trauma History Questionnaire, SANS = Scale for Negative Symptoms, SUDS = Subjective Units of Emotional Distress.

The focus of the intervention for PTSD varies between the studies. Research on the treatment of PTSD in other populations has shown strong empirical support for two cognitive behavioural methods: cognitive re-structuring (identifying and modifying inaccurate thoughts that lead to negative feelings) and exposure therapy (exposing the person to trauma related memories or situations with the aim of habituating them to the anxiety) (Mueser et al, 2007). Some studies have suggested that there is no significant difference in terms of efficacy for either treatment (Tarrier, Sommerfield, Pilgrim et al, 2004) and that their combination is no more effective than the use of one alone (Bryant, Moulds, Guthrie et al, 2003). In the series of studies by Mueser and colleagues (C, F, I & J) the primary therapeutic strategy is cognitive restructuring. They argue that people with SMI have a number of complex needs that make them vulnerable and highly sensitive the effects of stress; therefore they may not be able to tolerate exposure therapy (Mueser et al, 2008). It is also argued that cognitive restructuring techniques are widely and successfully used with people with SMI already, for example to reduce psychotic symptoms (Turkington, Kingdon & Weiden, 2006), whereas much less is known about the feasibility of exposure therapy as research is limited to case studies.

This approach is in contrast to Frueh et al (2009) whose study is unique in that exposure therapy is the primary component of the intervention. It is based on an earlier treatment model by the same group of researchers (Frueh et al, 2004). Frueh at al argue that in some studies exposure therapy has been shown to be the most effective component of treatment and highlight some recent guidelines which recommend exposure therapy as having the strongest empirical support. They also note that exposure therapy has been successfully used with other potentially vulnerable groups who have PTSD, including adults with drug dependence (Brady, Dansky, Back et al, 2001) and female veterans (Schnurr, Friedman, Engel et al, 2007). They therefore argue that it can be used with people with psychosis and their pilot study aimed to evaluate the effectiveness of an exposure based therapy. Like Mueser et al (2002) the approach is adapted to accommodate the complex needs of people with SMI, therefore social skills training and anxiety management components are completed prior to the exposure work.

Callcott et al (2004) present two case studies which also suggest that exposure can be effective for people with psychosis. Both studies focus on anxiety related processes and the reduction of safety behaviours, in keeping with the traditional CBT treatment for PTSD based

on the Ehlers and Clark (2000) model. In one study the memory of childhood abuse is manipulated with the aim of giving the person a sense of empowerment to control flashbacks. A reduction in PTSD symptoms is reported, although no statistical analysis is done so it is not known if or how significant the effect is. Trappler and Newville (2007) developed a group for people with chronic schizophrenia who had complex trauma histories. The first phase of the group focused on developing emotional regulation skills and then participants would complete exposure work related to their trauma. However they reported that the initial 12 week phase was ongoing and that participants were 'deemed not ready' to complete the exposure work, despite an apparent reduction in PTSD symptoms. It is also not stated how the measure of PTSD (the Impact of Events Scale) was completed and what traumatic event (if any) it was related too.

Mueser et al (2008) reported a reduction in the overall symptoms of PTSD (effect size = .45), which was more significant for participants categorised as having 'severe' pre-treatment PTSD symptoms (effect size = .59). The other studies by Mueser that used cognitive restructuring (F & I) also report a significant reduction in PTSD symptoms, when compared to treatment as usual (TAU) control groups. This finding is replicated in the exposure based intervention by Frueh et al (2009), although the effect size is not reported. This was maintained at 3 month follow up in all of the studies. This is in common with research with other populations that found both types of therapy to be effective (Bryant et al, 2003). Frueh et al (2009) reported that 10 out of 13 treatment completers no longer met the DSM-IV-TR (2000) criteria for PTSD. Only the intervention delivered in the group format (F) made a significant reduction in PTSD diagnosis in the Mueser et al studies. Interestingly, the exposure based intervention did not significantly reduce symptoms of anxiety or depression, unlike the cognitive restructuring intervention. Mueser et al (2007) argue that one of the benefits of cognitive restructuring is that it can be used to reduce distress associated with a wider range of symptoms including more generalised anxiety, psychosis and depression, unlike exposure therapy whose main effect is the reduction of anxiety symptoms. This may account for the broader treatment effect observed in the Mueser studies.

In some studies a group format is chosen over individual therapy. Mueser et al (2007) developed a 21 week Trauma Recovery Group to be run with people with SMI in community mental health teams. It is based on an earlier conceptual model that was developed to

understand the interaction between trauma, PTSD and the course of severe mental illness (Mueser et al, 2002) and the publication of three case studies (J). The approach was shortened to 12 to 16 sessions for individual therapy and evaluated in a later RCT (C). Both the individual and group format reported that the intervention significantly reduced PTSD symptoms, although only the group format reduced diagnosis. Frueh et al (2009) favour the group approach as it allows participants to interact and practice the social skills they are taught as well as providing social support. The exposure therapy component is completed individually because there is some evidence to suggest that this type of therapy in a group is not effective (Schnurr, Friedman, Foy et al, 2003). Frueh et al also highlight that groups are more efficient from a service delivery perspective and are more suited to busy mental health teams where the need for psychological input is high.

Jackson et al (2009) developed a CBT programme aimed at reducing problems related to adjustment and adaptation following a first episode of psychosis. The programme was individually tailored to each participant but included three key components; an individual formulation, trauma processing and addressing appraisals related to having psychosis, including shame and loss of social roles or life goals. They reported a "small to modest effect size for the treatment condition" (ES = 0.35) (pg. 459) that reduced symptoms of trauma related intrusions and avoidance. However, as in the Mueser study (2008) the treatment effect size was stronger for those who had higher pre-treatment levels of PTSD symptoms. They did not use the newer revised edition of the Impact of Events scale (Weiss & Marmar, 1997) that also measures hyper-arousal, a defining feature of PTSD in DSM-IV-TR (2000). Jackson et al (2009) found that the intervention did not effect levels of depression or self esteem, but concluded that this may be due to the sample size (n = 36) that was much lower than calculated by the power calculation (n=160) to detect a moderate effect.

One study has looked at the effect of written emotional disclosure on the symptoms of PTSD. Bernard et al (2006) conducted a controlled study in which participants were asked to write an account of the aspect of psychosis that they found the most distressing. They argue that written disclosure facilitates the processing of thoughts and feelings that may have previously been avoided. It also involves exposure to the traumatic event, which has shown to be an effective intervention for PTSD. Participants who wrote about their illness are compared to an active control group who wrote about something neutral. A significant reduction in overall

PTSD symptoms, particularly avoidance of psychosis-related stimuli, occurred only in the treatment group suggesting that it is the process of writing about the trauma that reduces the associated distress. There was no significant reduction in levels of anxiety or depression, which may suggest that the effect could be specific to trauma symptoms or the researchers highlight the sample size that may have been too small to detect an effect. Frueh et al (2004) expressed concern that exposure strategies that require writing may not be suitable for some people with SMI due to poor literacy skills and that interventions may need to be adapted, for example the person recording their narrative.

Kevan et al (2007) present a single case experimental design study where a participant with schizophrenia is asked to write an account of a burglary that had resulted in PTSD, with the aim of elaborating the traumatic memory. They also report a significant reduction in the symptoms of PTSD following the intervention. However they apply a cognitive restructuring intervention after the writing but do not conduct any analysis to see which component of the intervention caused the largest effect on symptom reduction. They rely on visual inspection of the data that shows a reduction in PTSD symptoms during the first writing stage, which reduces further during the second cognitive restructuring phase. However, it is not clear if this reduction is significant and it could be that improvement is phase one is due to the more general effects of starting therapy, such as engagement with the therapist.

Methodological Issues

The studies vary in the nature of the traumatic event that is assessed for and that is the focus of the intervention. Some of the studies focus on a specific event that led to PTSD, for example a burglary (D) or prolonged abuse (H). The Trauma Recovery Group (C, F) and the Skill Training in Affect Regulation group (E) are designed for participants who are likely to have experienced multiple traumatic events over their lifetime so the interventions focused on trauma more broadly. Exposure is designed for use with a specific event or set of memories, so Frueh et al (2009) assessed for up to three traumatic events that could have occurred in adult or childhood. As discussed in the previous section of this review the experience of having psychosis can itself cause PTSD. Only two of the studies (A, G) assess for PTSD directly in relation to the psychotic episode and focus the subsequent intervention on this. Whether the trauma occurred prior to, after the onset or as a direct result of psychotic episode

is likely to be an important factor in the selection and efficacy of the intervention that future research will need to investigate.

In the studies by Frueh (B) and Mueser and colleagues (C, F) a manualised approach to treatment is taken, whereas Jackson et al (A) take a more individual, formulation based approach. There are advantages to both, with a structured method meaning that participants all received very similar treatment allowing for more specific conclusions to be drawn about what interventions are effective. It also allows for the intervention to be more easily replicated. The studies all have multiple therapists who complete the treatment, so the results cannot be said to be due to the skill or approach of a particular person. In all studies tapes are submitted by the therapist to see if they adhere to the protocol. In the Mueser et al (2008) RCT 15% of sessions were checked for fidelity monitoring using a standardised scale and 25% were checked in the Frueh et al (2009) study. This was less rigorous in the Jackson et al (2009) study where only a minimum of 2 tapes had to be submitted to check 'adherence to CBT principles', although it is not specified what these are.

Mueser (2008) describe the sample used in their studies (C, F, I & J) as 'chronic and disabled' with a high level of social and functional impairment relating to their illness. The majority of the studies in table 2 also use a similar sample that have been unwell for a number of years, had a high number of relapses and hospital admissions (B, D, E & H). Some are recruited from day hospitals or similar rehabilitation units, where by definition patients are unable to work and have difficulties with daily living skills. Two studies (A, G) look at a sample of Early Intervention (EI) clients who have had one episode of psychosis and are in the relatively early stage of their illness. The characteristics of this sample are very different with a much lower number of hospital admissions and general impairment. The average age in the EI studies was 23 and 24 respectively. This is compared to 41 years old (B), 42 (C, F) and 48 (I) in the studies with the chronic participants. Participant characteristics are important factors to consider when deciding on the most appropriate intervention. Recent research has indicated that age specific factors may influence the efficacy of CBT in those with psychosis (Haddock, Lewis, Bentall et al, 2006). The participants who have a chronic, long-term illness are more likely to have experienced multiple traumas, as illustrated in the case studies (H & J) and discussed in section 1 of this review. This will present a different set of challenges to treatment. It may be that interventions need to be tailored dependant on variables such as the

stage of illness and age, but further research is needed to find out what factors are important and are likely to influence outcome.

Jackson et al (2009) suggest that how a person appraises their illness will evolve over time and that interventions need to take this into account. In their study the intervention is theoretically grounded in the literature on pathways to emotional dysfunction in first episode psychosis (Birchwood, 2003), with an emphasis on psychological reactions to the diagnosis (particularly shame) and the associated loss of role (Gilbert, 2003). Jackson et al (2009) and Bernard et al (2006) demonstrated that the traumatic sequelae following a first episode of psychosis can be reduced through psychological intervention. In Jackson et al significantly more people (66%) reported a worsening of symptoms over time in the TAU group, than in the intervention group (31%). This suggests that not intervening early would put twice as many people at risk of their symptoms becoming worse over a six month period. It is argued that targeted interventions are needed early on in the course of illness to prevent difficulties becoming entrenched and leading to poorer outcome.

Evidential quality of the intervention studies

The participant's primary diagnosis varies between the studies, with some interventions developed for people with SMI (C, F, I & J) and others more specifically psychosis (A, B, D, E, G & H). Mueser et al (C, F & I) define SMI as an Axis 1 or Axis 2 disorder with associated functional impairment. This broad definition of SMI meant that only 15% of people had a diagnosis of schizophrenia or schizoaffective disorder in the RCT (C) and 12% in the earlier pilot study (F). They acknowledge that the results may not generalise to people with psychosis and suggest that the study needs to be repeated on a more homogenous sample. However, they also assert that the sample is representative of a community mental health service and the fact that the intervention worked means it can be applied to this setting. The studies by Mueser were all conducted in a rural area where there are low rates of poverty, crime and ethnic minority groups. They point out the need to evaluate the intervention in a more urban setting with a higher rate of ethnic heterogeneity. This is in contrast to the studies using an EI sample (A, G) which were conducted in a deprived inner city area with high ethnic diversity.

Two of the studies (A, C) were single blinded so that the researcher who conducted the assessments did not know what condition the participants were in. In Frueh et al's (2009) study, 25% of clinician administered assessments were checked for inter-rater reliability. The other studies were all open trials and the assessments were often conducted by the clinicians who carried out the therapy. This could have introduced researcher bias, especially in studies that used clinician rated assessments as opposed to self-report.

The drop out rate was relatively high in some of the main studies with Jackson et al (2009) and Frueh et al (2009) reporting that approximately one in three people withdraw from the treatment group . A slightly higher rate of rate of 41% is reported by Mueser et al (2007), although this reduced to 19% in the 2008 study. Although the drop out rates is high, they are similar to previous studies with people with psychosis (Jackson, McGorry, Killackey et al, 1998; Jolley, Garety, Craig et al, 2003). It is likely that the studies highlight the general difficulty of engaging people with psychosis or SMI in long-term therapy. Both Jackson et al (2009) and Frueh et al (2009) suggest that it may be feasible to reduce the length of their interventions so that a higher percentage of participants are retained to complete treatment.

The interventions in all of the controlled studies (A, B, C) are constructed of a series of different modules. Each study looked at the overall effect the intervention had on PTSD symptoms, so it is not known which aspects of the interventions were the most effective. Frueh et al (2009) asked each participant to complete a PTSD checklist at the end of each session and using paired t-test analysis concluded that most significant gains were made at the start of treatment (sessions 1 to 4: the educational & anxiety management components) and towards the end of the treatment programme, whilst the exposure was taking place. However, this result may be a reflection of the general order of the components as it is a consistent finding across many therapies that an improvement in the client occurs within the early stages of therapy.

A limitation of all of the studies, with the exception of Bernard et al (2006), is the lack of an active control group. Four of the studies (A, C, E & G) incorporate a control group into the design of the study, but for both of the RCTs this is a treatment as usual (TAU) control. The studies do not monitor what interventions or contacts with professionals the TAU group received, but Mueser say that 'supportive counselling' may be part of this. It is not specified

if any change occurred in the control groups, but other studies have found an improvement. For example in an RCT looking at the efficacy of CBT for psychosis Tarrier, Yusupoff, Kinney et al (1998) found that an improvement in symptoms of psychosis occurred in control conditions where a 'supportive' relationship was built up with the client. Jackson et al (2009) argue that both the intervention and the TAU group also had regular contact with mental health professionals, so the results are likely to be due to the intervention.

Future Research

The research presented suggests that people with SMI and psychosis are able to benefit from trauma focused therapeutic interventions. As previously noted the majority of the research looks at the efficacy of CBT in reducing PTSD, with little research into the effectiveness of other therapeutic models. Jackson et al's (2009) study was unique in that the intervention focused partly on the psychological reactions to psychosis, particularly shame that is high in people with FEP (Birchwood, Trower, Gilbert, et al 2006). A more recent cognitive based intervention is Compassionate Mind Training (CMT), which has been developed for people with high levels of shame and self-criticism (Gilbert, 2005). A number of empirical trials have shown its effectiveness, including with people with depression (Gilbert & Procter, 2006) and psychosis (Laithwaite, O'Hanlon, Collins et al, 2009). Mayhew & Gilbert (2008) present a series of case studies of people with psychosis where CMT is successfully used to reduce the distress associated with malevolent voices and emotional dysfunction, including symptoms of anxiety and depression. Future research could look at its effectiveness with people with psychosis and PTSD. EMDR also has a growing empirical evidence base and was concluded to be as effective as trauma focused CBT in the recent Cochrane review of psychological treatments for PTSD in the general population (Bisson & Andrews, 2009). To date there are no known studies that have looked at the use of EMDR with people with SMI, so this may be an area for future research.

Further controlled studies are needed to evaluate the effectiveness of the interventions discussed and more specifically which components of the programmes have the greatest efficacy. Treatments should be compared to active control groups, for example comparing exposure therapy to cognitive restructuring (Frueh et al, 2004). The order and optimal length of each of the components also needs to be considered. Researchers are beginning to recognise that techniques such as exposure and cognitive restructuring alone will not be

enough for this client group who often have complex needs and multiple traumas (Mueser et al, 2002). More research is needed into what additional interventions may be helpful, for example the efficacy of social skills training used by Frueh et al (2009) or emotional regulation (Trappler & Newville, 2007). Bisson & Andrews (2009) also recommend that future trials need to address the effect of adverse events on treatment and tolerability factors, which would include looking at those who did not engage or dropped out of treatment.

As discussed, people with psychosis can suffer from multiple traumatic events that occur prior to and after the onset of their illness. The experience of the psychosis itself can also be highly distressing. It may be that interventions need to be adapted or have a different focus dependent on the nature of the traumatic event and when it occurred. Future research is needed to address this and also to look at the influence of factors such as age. The effectiveness of interventions with different client groups needs to be looked at, for example between different diagnostic groups or those with first episode psychosis compared to those with a more chronic, long-term illness.

Seven of the studies had a follow-up period, which ranged from one month (D, F) to six months (A, C). The long-term efficacy of the interventions is therefore not known and longitudinal research designs are needed to look at this. In some of the studies the researcher who conducted the assessments was the same person who carried out the intervention. Future research should use single blinding, whereby the researcher is blind to the treatment condition to reduce bias. It may also be possible to blind the participants to the treatment condition in studies that have active control groups.

In summary

Despite strong evidence that people with SMI or psychosis experience high levels of PTSD, it is only very recently that research has begun to look at interventions for this group. The earliest research was restricted to case studies that typically used CBT interventions that had demonstrated efficacy with the general population, such as imagined exposure and reliving. More recently it has been recognised that interventions need to be adapted for this vulnerable client group who have complex needs (Mueser et al, 2002). Theoretical models and interventions are therefore starting to be developed specifically for people with SMI and psychosis. To date there have been four controlled intervention trials, all of which

demonstrated a significant reduction in the symptoms of PTSD. The main therapeutic component varied; with one choosing cognitive restructuring, another exposure and a third focused on the appraisals pertinent to the early stages of psychosis. There is also evidence for written emotional disclosure. Whilst all four reduced symptoms of PTSD, there is some evidence that cognitive restructuring is effective at reducing emotional dysfunction more generally with studies finding a reduction in levels of anxiety and depression.

Research has been done with people who have a chronic, disabling SMI or with those with first episode psychosis. The studies also vary in the type of traumatic event that the intervention targets; with some focusing on an event prior to psychosis, others after the onset of the illness and two on the traumatic impact of the psychosis itself. Further research is needed to look at the effect of these variables and which interventions are more effective with each group. There is a need for longitudinal, single blind trials with an active control group to further look at what interventions are effective in reducing PTSD in people with psychosis.

Overall Conclusions

A consistent finding in the literature is that there are high rates of PTSD in people with an SMI such as psychosis, compared to the general population. This is thought to be because they are more likely to be exposed to traumatic events in their lifetime, both during childhood and as a result of the onset of their illness (Mueser et al, 2002). There is also a large amount of anecdotal and empirical research attesting to the traumatic nature of psychosis itself. Positive psychotic symptoms such as command hallucinations or delusions can be very distressing, as can coercive treatment experiences such as seclusion and restraint. There is a debate in the literature about if such experiences meet the DSM-IV-TR (APA, 2000) Criterion A for a traumatic event. The definition focuses on threats to the physical as opposed to the psychological integrity of the individual (Jackson & Birchwood, 2006). However, Mueser et al (2010) recently found equal levels of PTSD symptoms, distress and functional impairment in people with psychosis where the event met Criteria A and where it did not.

They argue that excluding people on the basis of Criteria A means that a significant number of distressed and functionally impaired people may not get the treatment or help they need.

Research has now started to move towards developing theoretical models and interventions for PTSD in psychosis. The evidence base is still small, but studies show promising results in reducing symptoms of PTSD using a number of different interventions. It is recognised that because people with a SMI have complex needs, interventions that are successfully used with the general population need to be adapted (Mueser et al, 2002). Although all of the intervention studies show a reduction in PTSD symptoms, it is not known which components have the greatest efficacy. Interventions have been developed for those with first episode psychosis and for those with a chronic illness. Some of the interventions focus on trauma as a direct result of having psychosis, whilst others focus on lifetime traumatic events. It has been suggested that future research needs to look at the nature of the trauma and the differences between populations, to see if interventions need to be adapted accordingly. To date there have been few controlled studies and future research needs to compare interventions using active control groups. There is also a need for longitudinal research as the long-term efficacy of the interventions is not known. In sum, since the first study by McGorry et al (1991) highlighted post-psychotic trauma as potentially an important clinical issue, research has found that both symptoms and treatments related to psychosis can cause symptoms of PTSD. Given that the objective nature of these now seems less relevant (Mueser et al, 2010) there is an ongoing need to develop and evaluate interventions to reduce trauma related to people's psychotic experiences.

References

American Psychiatric Association (2000). *Diagnostic and Statistical Manual of Mental Disorders 4th Edition Text Revision.* American Psychiatric Publishing Inc.

American Psychiatric Association (1980). *Diagnostic and Statistical Manual of Mental Disorders 3rd Edition.* American Psychiatric Publishing Inc.

Beattie, N., Shannon, C., Kavanagh, M. & Mulholland, C. (2009). Predictors of PTSD symptoms in response to psychosis and psychiatric admission. *The Journal of Nervous and Mental Disease, 197,* 1, 56–60.

Bebbington, P., Bhugra, D., Brugha, T., Singleton, N., & Farrell, N. (2004). Psychosis, victimisation and childhood disadvantage. Evidence from the second British National Survey of Psychiatric Morbidity. *The British Journal of Psychiatry, 185,* 220-226.

Bendall, S., McGorry, P. & Krstev, H. (2006). The trauma of being psychotic: An analysis of posttraumatic stress disorder in response to acute psychosis. In Larkin, W. & Morrison, A. P. (Eds). *Trauma and Psychosis. New Directions for Theory and Therapy.* Routledge.

Bernard, M., Jackson, C. & Jones, C. (2006). Written emotional disclosure following first episode psychosis: Effects on symptoms of post-traumatic stress disorder. *British Journal of Clinical Psychology, 45,* 1-14.

Birchwood, M. (2003). Pathways to emotional dysfunction in first-episode psychosis. *British Journal of Psychiatry, 182,* 373-375.

Birchwood, M. Trower, P., Gilbert, P., Iqbal, Z. & Jackson, C. (2006). Social anxiety and the shame of psychosis: A study in first episode clients. *Behaviour Research and Therapy, 45,* 1025-1037.

Bisson, J. & Andrews, M. (2009). Psychological treatment of post-traumatic stress disorder (PTSD) (Review). *The Cochrane Collaboration.* JohnWiley & Sons, Ltd.

Bodkin, J. A., Pope, H. G., Detke, M. J. & Hudson, J. I. (2007). Is PTSD caused by traumatic stress? *Journal of Anxiety Disorders, 21,* 176–82.

Braakman, M. H., Kortmann, F. M., & Brink, W. (2009). Validity of 'post-traumatic stress disorder with secondary psychotic features': A review of the evidence. *Acta Psychiatrica Scandinavica, 112,* 15-24.

Brady, K. T., Dansky, B. S., Back, S. E., Foa, E. B. & Carroll, K. M. (2001). Exposure therapy in the treatment of PTSD in cocaine dependant individuals: preliminary findings. *Journal of Substance Abuse Treatment, 21,* 47-54.

Brandon, S., Broakes, J., Glaser, D. & Green, R. (1998). Recovered memories of childhood sexual abuse: Implications for clinical practice. *British Journal of Psychiatry, 172,* 296-307.

Breslau, N., Davis, G. C., Andreski, P. & Peterson, E. (1991). Traumatic events and posttraumatic stress disorder in an urban population of young adults. *Achieves of General Psychiatry, 48,* 216-222.

Bryant, R. A., Moulds, M. L., Guthrie, R. M., Dang, S. T. & Nixon, R. D. (2003). Imaginal exposure alone and imaginal exposure with cognitive restructuring in treatment of posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 71,* 706-712.

Buckley, P. F., Miller, B., Lehrer, D. S., & Castle, D. J. (2008). Psychiatric Comorbidities and Schizophrenia. *Schizophrenia Bulletin, 35,* 2, 1-20.

Callcott, P., Standart, S. & Turkington, D. (2004). Trauma within psychosis: using a CBT model for PTSD in psychosis. *Behavioural and Cognitive Psychotherapy, 32,* 239-244.

Cascardi, M., Mueser, K., DeGiralomo, J. & Murrin, M. (1996). Physical aggression against psychiatric inpatients by family members and partners. *Psychiatric Services, 47*, 531-533.

Chisholm, B., Freeman, D. & Cooke, A. (2006). Identifying potential predictors of traumatic reactions to psychotic episodes. *British Journal of Clinical Psychology, 00,* 1–16.

Conus, P., Berk, M. & Shafer, I. (2009). Trauma and psychosis: some aspects of a complex relationship. *Acta Neuropsychiatrica, 2,* 148-150.

Coverdale, J. H. & Grunbaum, H. (1998). Sexuality and family planning. In Mueser, K. T. & Tarrier, N. (Eds). *Handbook of Social Functioning in Schizophrenia.* Allyn and Bacon.

Ehlers, A., Bisson, J., Clark, D., Creamer, M., Pilling, S., Richards, S., Schnurr, P. P, Turner, S. & Yule, W. (2010). Do all psychological treatments really work the same in posttraumatic stress disorder? *Clinical Psychology Review, 30*, 269–276.

Ehlers, A. & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy, 38,* 319-345.

Frame, L. & Morrison, A. (2001). Causes of Posttraumatic stress disorder in psychotic patients. *Achieves of General Psychiatry, 58,* 305–306.

Freeman, D. & Garety, P. A. (2000). Comments on the content of persecutory delusions: Does the definition need clarification? *British Journal of Clinical Psychology, 39,* 407-414.

Freeman, D. & Garety, P. A. (2004). *Paranoia: the psychology of persecutory delusions.* Hove: Psychology Press.

Frueh, C., Grubaugh, A., Cusack, K. J., Kimble, M. O., Elhai, J. D. & Knapp, R. G. (2009). Exposure-based cognitive-behavioural treatment of PTSD in adults with schizophrenia or schizoaffective disorder: A pilot study. *Journal of Anxiety Disorders, 23,* 665–675.

Frueh, C., Knapp, R., Cuscack, K., Grubaugh, A., Sauvageot, A. & Cousins, V. (2005). Patients reports of traumatic or harmful experiences within the psychiatric setting. *Psychiatric Services, 56,* 9, 1123–1133.

Frueh, C., Buckley, T. C., Cusack, K. J., Kimble, M. O., Grubaugh, A. L., Turner, S. M. & Keane, T. M. (2004). Cognitive-Behavioral Treatment for PTSD among People with Severe Mental Illness: A Proposed Treatment Model. *Journal of Psychiatric Practice, 10,* 1, 26-38.

Gallop, R., McCay, E., Guha, M., Khan, P., 1999. The experience of hospitalization and restraint of women who have a history of childhood sexual abuse. *Health Care for Women International 20,* 401–416.

Gilbert, P. & Procter, S. (2006). Compassionate mind training for people with high shame and self-criticism: overview and pilot study of a group therapy approach. *Clinical Psychology and Psychotherapy, 13,* 353–379.

Gilbert, P. (2005). *Compassion: Conceptualisations, research and use in psychotherapy.* Routledge.

Haddock, G., Lewis, S., Bentall, R., Dunn, G., Drake, R. & Tarrier, N. (2006). Influence of age on outcome of psychological treatments in first-episode psychosis. *The British Journal of Psychiatry*, *188,* 250-254.

Harrison, C. & Fowler, D. (2004). Negative symptoms, trauma and autobiographical memory: An investigation of individuals recovering from psychosis. *The Journal of Nervous and Mental Disease, 192*, 11, 745-753.

Harvey, A. Hall, & Tarrier, N. (2003). Cognitive behaviour therapy for posttraumatic stress disorder. *Clinical Psychology Review, 23,* 501-522.

Hamblen, J. L., Jankowski, M. K., Rosenberg, H., & Mueser, K. T. (2004). Cognitive behavioural treatment for PTSD in people with severe mental illness: Three case studies. *Journal of Psychiatric Rehabilitation, 7,* 147-170.

Jackson, C., Trower, P., Read, I., Smith, J., Hall., Townend, M., Barton, K., Jones, J., Ross, K., Russel, E., Dunn, G. & Birchwood, M. (2009) Improving psychological adjustment following a first episode of psychosis: A randomised control trial of cognitive therapy to reduce post psychotic trauma symptoms. *Behaviour Research and Therapy, 47,* 454-462.

Jackson, H. J., McGorry, P. D., Killackey, E., Bendall, S., Allott, K., & Dudgeon, P. (2008). Acute-phase and 1-year follow-up results of a randomized controlled trial of CBT versus befriending for first-episode psychosis: the ACE project. *Psychological Medicine, 38,* 725–735.

Jackson, C. & Birchwood, M. (2006). Trauma and first episode psychosis. In Larkin, W. & Morrison, A. P. (Eds). *Trauma and Psychosis. New Directions for Theory and Therapy*. Routledge.

Jackson, C., Knott, C., Skeate, A. & Birchwood, M. (2004). The trauma of first episode psychosis. *Australian and New Zealand Journal of Psychiatry, 38,* 327–333.

Jankowski, M. K., Mueser, K. & Rosenberg, S. D. (2006). Psychosis with comorbid PTSD. In Larkin, W. & Morrison, A. P. (Eds). *Trauma and Psychosis. New Directions for Theory and Therapy*. Routledge.

Jolley, S., Garety, P., Craig, T., Dunn, G., White, J., & Aitken, M. (2003). Cognitive Therapy in Early Psychosis: a pilot randomized controlled trial. *Behavioural and Cognitive Psychotherapy, 31,* 473–478.

Kennedy, B.L., Dhaliwal, N., Pedley, L., Sahner, C., Greenburg, R. & Manshadi. (2002). Post-traumatic stress disorder in subjects with schizophrenia and bipolar disorder. *The Journal of the Kentucky Medical Association, 100,* 395–399.

Kessler, R. C., Burglund, P., Demler, O., Jin, R., Merikangas, R. & Walters, E. (2005). Lifetime Prevalence and Age-of-Onset Distributions of *DSM-IV* Disorders in the National Comorbidity Survey Replication. *Achieves of General Psychiatry, 62,* 593-602.

Kevan, I. M., Gumley, A. & Coletta, V. (2007). Post-traumatic stress disorder in a person with a diagnosis of schizophrenia: Examining the efficacy of psychological intervention using single N methodology. *Clinical Psychology and Psychotherapy, 14*, 3, 229-243.

Kilcommons, A. M. & Morrison, A. P. (2005). Relationships between trauma and psychosis: an exploration of cognitive and dissociative factors. *Acta Psychiatrica Scandinavica,112,* 351-359.

Laithwaite, H., O'Hanlon, M., Collins, P., Doyle, P., Abraham, L., & Gumley, A. (2009). Recovery after Psychosis (RAP): A compassion focused programme for individuals residing in high security settings. *Behavioural and Cognitive Psychotherapy, 37,* 511–526.

Lommen, M. J. & Restifo, K. (2009). Trauma and Posttraumatic Stress Disorder (PTSD) in Patients with Schizophrenia or Schizoaffective Disorder. *Community Mental Health Journal, 45,* 6, 485-496.

Maier, T. (2007). Weathers' and Keane's, "The Criterion A problem revisited: controversies and challenges in defining and measuring psychological trauma". Journal of Traumatic Stress 20, 915–916.

Mayhew, S. L. & Gilbert, P. (2008). Compassionate mind training with people who malevolent voices: A case series report. *Clinical Psychology and Psychotherapy, 15,* 113-138.

McGlashan, T. H. (1987). Recovery style from mental illness and long-term outcome. *Journal of Nervous and Mental Disease, 175,* 681-685.

McGlashan, T. H., Levy, S. T. & Carpenter, W. T. (1975). Integration and sealing over: clinically distinct recovery styles. *Achieves of General Psychiatry, 32,* 1269-1272.

McGorry P, Chanen A, McCarthy E, van Riel R, McKenzie D, Singh B (1991). Post-traumatic stress disorder following recent onset psychosis: An unrecognized post psychotic syndrome. *The Journal of Nervous and Mental Disease,* 179, 253–258.

The Mental Health Act (2007)

http://www.opsi.gov.uk/ACTS/acts2007/pdf/ukpga_20070012_en.pdf.

Meyer, H., Taiminen, T., Vuori, T., Aijala, A. & Helenius, H. (1999). Posttraumatic stress disorder symptoms related to psychosis and acute involuntary hospitalisation in schizophrenic and delusional patients. *Journal of Nervous and Mental Disease, 187,* 6, 343–352.

Morgan, C. & Fisher, H. (2007). Environmental factors in schizophrenia: childhood trauma – a critical review. *Schizophrenia Bulletin, 33,* 3-10.

Morrison, A. P., Frame, L. & Larkin, W. (2003). Relationships between trauma and psychosis: A review and integration. *British Journal of Clinical Psychology, 42,* 331-353.

Morrison, A. P., Bowe, S., Larkin, W. & Nothard, S. (1999). The Psychological Impact of Psychiatric Admission: Some Preliminary Findings. *Journal of Nervous and Mental Disease, 187,* 4, 250–253.

Mueser, K. T. Lu, W., Rosenberg, S. D. & Wolfe, R. (2010). The trauma of psychosis: Posttraumatic stress disorder and recent onset psychosis. *Schizophrenia Research, 116*, 217–227.

Mueser, K. T., Hamblen, J. L. & Rosenberg, H. (2008) A randomised controlled trial of cognitive behavioural treatment for post traumatic stress disorder in severe mental illness. *Journal of Consulting and Clinical Psychology, 76*, 2, 259–271.

Mueser, K. T., Bolton, E., Carty, P. C., Bradley, M. J., Ahlgren, K. F., DiStaso, D. R. & Gilbride, A. (2007). The trauma recovery group: A cognitive-behavioural program for post-traumatic stress disorder in persons with severe mental illness. *Community Mental Health Journal, 43,* 3, 281–303.

Mueser, K. T. & Rosenberg, H. (2003). Treating the trauma of first episode psychosis: A PTSD perspective. *Journal of Mental Health, 12,* 103-108.

Mueser, K. T., Rosenberg, H., Jankowski, M. K. & Hamblen, J. L. (2004). A cognitive behavioural treatment programme for posttraumatic stress disorder in persons with severe mental illness. *Journal of Psychiatric Rehabilitation, 7,* 107-146.

Mueser, K. T., Rosenberg, H. & Goodman, L. (2002). Trauma, PTSD and the course of severe mental illness: an interactive model. *Schizophrenia Research, 53,* 123-143.

Priebe, S., Broker, M. & Gunkel, S. (1998). Involuntary admission and posttraumatic stress disorder symptoms in schizophrenia patients. *Comprehensive Psychiatry, 39*, 4, 220–224.

Read, J., Van Os, J., Morrison, A. P. & Ross, C. A. (2005). Childhood trauma, psychosis and schizophrenia: a literature review with theoretical and clinical implications. *Acta Psychiatrica Scandinavica, 112,* 5, 330-350.

Read, J. (1997). Child abuse and psychosis: A literature review and implications for professional practice. *Professional Psychology: Research and Practice. 28,* 5, 448-456.

Rosen, G. M., Spitzer, R. L. & McHugh, P. R. (2008). Problems with the post-traumatic stress disorder diagnosis and its future in DSM–V. *The British Journal of Psychiatry, 192,* 3–4.

Rosenberg, H., Mueser, K. T. & Jankowski, M. K. (2004). Cognitive-behavioural treatment of PTSD in severe mental illness: Results of a pilot study. *Journal of Psychiatric Rehabilitation, 7,* 171-186.

Rosenberg, H., Rosenberg, S. D., Wolford, G. L., Manganiello, P. D., Brunette, M. F. & Boynton, R. A. (2000). The relationship between trauma, PTSD and medical utilisation in three high risk populations. *International Journal of Psychiatry in Medicine, 30,* 247-259.

Schnurr, P. P., Friedman, M. J., Engel, C. C., Foa, E. B., Shea, M. T. & Chow, B. K. (2007). Cognitive behavioural therapy for posttraumatic stress disorder in women: results from a randomised control trial. *Journal of the American Medical Association, 297,* 820-830.

Schnurr, P. P., Friedman, M. J., Foy, D., Shea, M. T., Hsieh, F. Y., Lavori, P. W., Glynn, S. M., Wattenberg, M. & Bernardy, N. (2003). Randomized Trial of Trauma-Focused

Group Therapy for Posttraumatic Stress Disorder. *Achieves of General Psychiatry, 60,* 481-489.

Shaw, K., McFarlane, A. C., Brookles, C. & Air, T. (2002). The aetiology of postpsychotic posttraumatic stress disorder following a psychotic episode. *Journal of Traumatic Stress, 15,* 1, 39–47.

Shaw, K., McFarlane, A. C., & Brookles, C. (1997). The Phenomenology of Traumatic Reactions to Psychotic Illness. *The Journal of Nervous and Mental Disease, 185,* 7, 434–441.

Spitzer, R. L,, First, M. B. & Wakefield, J. C. (2007). Saving PTSD from itself in DSM–V. *Journal of Anxiety Disorders, 21,* 233–41.

Startup, M., Wilding, N. & Startup, S. (2006). Patient Treatment Adherence in Cognitive Behaviour Therapy for Acute Psychosis: The Role of Recovery Style and Working Alliance. *Behavioural and Cognitive Psychotherapy, 34,* 2, 191-199.

Steinert, T., Bergbauer, G., Schmid, P. & Gerbhardt, P. P. (2007). Seclusion and restraint in patients with Schizophrenia: Clinical and biographical correlates. *The Journal of Nervous and Mental Disease, 195,* 6, 492-496.

Tait, L., Birchwood, M. & Trower, P. (2003). Predicting engagement with services for psychosis: insight, symptoms and recovery style. *The British Journal of Psychiatry, 182,* 123-128.

Tarrier, N., Khan, S., Cater, J. & Picken, A. (2007). The subjective consequences of suffering a first episode psychosis: trauma and suicide behaviour. *Social Psychiatry and Psychiatric Epidemiology, 42,* 1, 29-35.

Tarrier, N. Yusupoff, L. Kinney, C., McCarthy, E., Gledhill, A., Haddock, G & Morris, J. (1998) Randomised control trial of intensive cognitive behavioural therapy for clients with chronic schizophrenia. *British Medical Journal, 317*, 303-307.

Tarrier, N., Sommerfield, C., Pilgrim, H. & Faragher, B. (2004). Factors associated with outcome of cognitive-behavioural treatment of chronic post-traumatic stress disorder. *Behaviour research and Therapy, 38,* 191-202.

Tibbo P., Swainson J., Chue P & LeMelledo J. M. (2003). Prevalence and relationship to delusions and hallucinations of anxiety disorders in schizophrenia. *Depression and Anxiety, 17,* 65–72.

Tilman, S., Bergbauer, G., Schmid, P. & Gebhardt, R. (2007). Seclusion and Restraint in Patients With Schizophrenia: Clinical and Biographical Correlates. *The Journal of Nervous and Mental Disease, 195,* 6, 492 – 496.

Trappler, B. & Newville, H. (2007). Trauma healing via cognitive behavioural therapy in chronically hospitalised patients. *Psychiatric Quarterly, 78,* 317-325.

Trower, P., Birchwood, M., Meaden, A., Byrne, S., Nelson, A. & Ross, K. (2004). Cognitive therapy for command hallucinations: A randomised control trial. *British Journal of Psychiatry, 184,* 312-320.

Turkington, D., Kingdon, D. & Weiden, P. J. (2006). Cognitive behavioural therapy for schizophrenia. *American Journal of Psychiatry, 163,* 365-373.

White, R. G. & Gumley, A. (2009). Postpsychotic Posttraumatic Stress Disorder; Associations with fear of recurrence and intolerance of uncertainty. *The Journal of Nervous and Mental Disease, 197,* 11, 841–849.

Weiss, D. S. & C.R. Marmar, C. R. (1997). The Impact of Event Scale-Revised. In: Wilson, J. P. & Keane, T. M. (Eds), *Assessing psychological trauma and PTSD: A handbook for practitioners*, Guilford Press; New York.

The role of shame in the development of posttraumatic stress disorder and depression in people with first episode psychosis.

Abstract

Objectives. The current study aimed to look the relationship between shame, depression and symptoms of posttraumatic stress disorder (PTSD) in a clinical sample of people with first episode psychosis. The study looked at the contribution of internal, external and global shame, as well as factors that were operating at the time of the trauma (crisis support, perceived helplessness and control).

Method. 50 individuals whose psychotic symptoms were in remission were assessed for the presence of PTSD symptoms associated with a traumatic experience that occurred during a previous psychotic episode. They were also asked about internal and external shame in relation to having psychosis, current global shame, depression and other factors that occurred at the time the traumatic event.

Results. Higher levels of all types of shame were shown to be associated with increased depression and psychosis related PTSD symptoms. However regression analysis indicated that internal shame had the strongest relationship with depression; whilst external and global shame was more strongly related to levels of PTSD symptoms. Social support was the only one of the three factors operating at the time of the trauma that was shown to correlate with PTSD symptoms (intrusions).

Conclusions. The results are consistent with previous research that shows people with psychosis have high levels of post-psychotic depression and symptoms of PTSD. The study showed that internal shame made an independent contribution to depression and external and global shame made independent contributions to psychosis related PTSD symptoms. This has implications for future research by suggesting that it is not enough to simply assess global or general shame. There are also clinical implications in that interventions need to be developed to address shame and symptoms of trauma in people with psychosis. The study recommends that shame should be researched in relation to a specific context.

Introduction

Shame

Although there is no generally agreed definition of shame it is commonly thought of as a painful, self-conscious emotion related to feelings of inferiority, a sense of social undesirability, powerlessness and a desire to conceal deficiencies from others (Tangney & Dearing, 2002). It can result from a person believing that they have undesirable personality characteristics, physical attributes or they have behaved in a way that others will find unattractive and will result in rejection. Shame has been described as a 'rich and powerful' emotion (Matos & Pinto-Gouveia, 2009) that plays a central role in how humans function and behave. Shame develops from our childhood interactions with others. It develops later than primary emotions as it depends on certain mental abilities; including the development of self-awareness and theory of mind that allows us to see how we might exist in the minds of others (Gilbert, 1998).

Gilbert (1997) makes the distinction between internal and external shame. Internal shame relates to how we see ourselves including the thoughts and feelings we attribute to our own behaviours and personal attributes. Researchers have associated internal shame with self-disgust and beliefs about the self as defective, inadequate and worthless (Gilbert, 1998; Tangney & Fischer, 1995). External shame is how we see ourselves as existing in the mind of others, for example believing that others view us negatively or as having characteristics that are unattractive. Although the two types of shame are highly correlated, Gilbert (1998) argues that it is possible to experience one in the absence of the other dependant on the situation. For example an overweight person may be very sensitive to the stigma associated with obesity in society, but not have a lowered sense of self worth or low self-esteem. Gilbert (1998) argues that the distinction between the two types of shame is an important one that is not often addressed in empirical research, with few studies including a measure related to external shame.

Shame is an important area for research. It has significant clinical implications as it can affect a person's ability to reveal painful information and hinder help seeking (Gilbert & Proctor, 2006). Macdonald and Morely (2001) found that shame was the emotion that clients in a psychotherapy setting felt most uncomfortable and ashamed of disclosing. Shame felt by the

client or the therapist can also be an obstacle in the therapeutic relationship and can trigger therapeutic ruptures (Gilbert & Leahy, 2007). It has been suggested that shame may impede the emotional processing of an event (Brewin, Dalgleish & Joseph, 1996) and therefore have implications for therapy.

Shame and Psychopathology

There has been increasing interest in the negative consequences of shame and the role it plays in the development and maintenance of a number of psychopathologies.

Shame and Depression

Particular attention has been paid to the role of shame in the onset and course of depression, with studies consistently finding significant and substantial positive correlations between shame and depressive symptoms. Andrews (1995) found that bodily shame, but not childhood abuse, was related to chronic and recurrent depression when both variables were looked at together and current depression was controlled for in a non-clinical sample. Andrews and Hunter (1997) replicated these findings with a clinical sample of participants with depression. They also found that characterological and behavioural shame were related to depression. Cheung, Gilbert and Irons (2004) found that shame retained a unique contribution to depression even after the mediating influence of rumination was controlled for. When shame and guilt are both measured, only shame has been shown to be consistently associated with depression (Thompson & Berenbaum, 2006).

Measurement of shame

Andrews (1998) argues that the high correlations may be due in part to an overlap or a similarity between measures of shame and depression, with both assessing for negative affect. She highlights the fact that few measures ask about shame specifically and that authors conceptualise high shame individuals in different ways. In response to this, Andrews, Qian and Valentine (2002) developed the Experience of Shame Scale (ESS) that asks participants directly about their experiences of eight different areas of shame. For each a question is firstly asked about the person's own shameful beliefs, secondly about other people's opinions of them and thirdly about shame related behaviour. They found that when depressive symptoms were controlled for at the first assessment, the ESS predicted significant additional variance in depressive symptoms at the 11 week follow up. They interpret this as showing

that shame as measured by the ESS and depression are not solely a reflection of general negative affectivity in both scales.

Leeming and Boyle (2004) argue that the majority of the empirical research into shame is not concerned with the source of the shame. Studies use measures that ask participants to rate hypothetical shame inducing scenarios (for example using the popular Test of Self-Conscious Affect; Tangney, Wagner & Gramzow, 1989) or global self descriptions (for example the Internalised Shame Scale; Cook 1994). They argue that shame is experienced *about* something, so it cannot be divorced from the context in which it arises. Shame should therefore not be conceptualised as a stable personality trait that will generalise across situations and over time, as is presumed in many studies. Support for this came from Andrews (1998) who noted that empirically shame has not been demonstrated as stable over more than a couple of months.

Shame and PTSD

Recently research has begun to look at the contribution of shame to PTSD. In order to meet the criteria for PTSD according to the Diagnostic and Statistical Manual of Mental Disorders 4th Edition, Text Revision (DSM-IV-TR, American Psychiatric Association (APA) 2000), a person must have experienced a traumatic event (Criteria A1) and their response to it must have involved "fear, helplessness, or horror" (Criteria A2, pp. 428). The three core symptom categories of PTSD (avoidance of trauma related stimuli, hyper-arousal and intrusive re-experiencing of the trauma) must refer to the traumatic event and persist for beyond one month after the event.

The definition specifies the subjective impact of the trauma (the experience of fear, helplessness and horror). A growing number of studies have criticised Criterion A2, arguing that it needs to be amended to include other affective components. Brewin, Andrews and Rose (2000) conducted a longitudinal study looking at the development of PTSD in a large sample of victims of violent crime. They found that fear, helplessness and horror strongly predicted PTSD six months after the traumatic event. However, there was also a smaller subgroup of people who met the criteria for PTSD who did not experience these emotions at the time of the trauma, but who did experience high levels of shame and anger which independently predicted PTSD development. Grey, Holmes and Brewin (2001) and Holmes,

Grey and Young (2005) examined the emotions that participants with PTSD reported during 'hotspots' in their traumatic memories, or points of intense emotional distress. They found that fear was the most frequent emotion; with sadness, surprise and anger also reported more often than helplessness and horror. Shame and guilt were also frequently associated with the trauma. They suggest that the DSM criteria may need to be amended to include other emotions, including shame.

It is clear that some people retrospectively report experiencing shame at the time of a traumatic event. However, there has been less consideration of whether shame is simply a contaminant of PTSD or if it plays a significant role in the development and maintenance of the disorder. Andrews, Brewin, Rose et al (2000) assessed the role of shame, anger with the self or others and childhood abuse in the development of PTSD in a large sample of victims following a violent crime. They found that when all factors were considered together only shame and anger towards others predicted the development of PTSD symptoms one month after the event, but after six months shame remained the only independent predictor after controlling for PTSD symptoms at one month. This suggests that shame plays an important role in the course of PTSD development. Leskela, Dieperink and Thuras (2002) found that shame proneness in a group of war veterans positively correlated with PTSD symptom severity, whereas guilt proneness did not. Thus research indicates that shame is a common reaction to traumatic events, in addition to the emotions specified in Criteria A2.

Matos and Pinto-Gouveia (2009, 2010) investigated the relationship between shame, symptoms of PTSD and depression in a large sample of 811 participants from the general population. Unlike previous studies they used a measure of internal and external shame. They asked participants to complete the Impact of Events Scale-Revised (IES-R; Weiss and Marmar, 1997) to measure symptoms of PTSD in relation to a significant shameful memory from childhood or adolescence. They found that the recalled early shame experiences had traumatic memory characteristics; namely unwanted intrusions, avoidance and symptoms of hyper-arousal. They suggest shame memories are recorded as emotional memories in the autobiographical memory, which when triggered generate arousal, 'flashback' type intrusions and the typical avoidance type responses found in PTSD. They found that participants whose shame memories had more traumatic symptoms tended to be more depressed and have higher levels of internal and external shame as adults. In the later study Pinto-Gouveia and Matos

(2010) found that individuals who perceived their early shameful experience as central to their self-identity and as a reference point for their future expectations had higher levels of internal and external shame as adults and increased symptoms of depression.

A limitation of Matos and Pinto-Gouveia (2009, 2010) is that they use the Experience of Shame Scale (as described previously, Andrews et al, 2002) as a measure of internal shame, when it was not designed for this purpose. Only one of the three components of the scale can be said to directly measure internal shame, whilst another is a measure of how the person thinks they exist in the minds of others or external shame. Therefore the conclusions drawn relating to internal shame (and any distinctions made from external shame) must be interpreted with a strong note of caution. This includes the finding that external shame is a stronger predictor of depression than internal shame, as it more likely that global shame was being compared to external shame. Pinto-Gouveia and Matos (2010) acknowledge this limitation and suggest future studies should use a specific measure of internal shame, such as the Internalised Shame Scale (Cook, 1996) to see if the findings are replicated.

Harman and Lee (2009) recently looked at the relationship between shame and PTSD in sample of help seeking individuals with a diagnosis of PTSD. They used the ESS as a global measure of shame. They found that there was a positive correlation between general shame and PTSD symptoms, a finding that has not been empirically demonstrated before. Shame was also shown to have a significant correlation with depression, as measured by the Beck Depression Inventory (Beck, Rush, Shaw et al, 1973). The clinical sample had significantly higher levels of shame, depression and self-criticism when compared to data from a non-clinical sample. The study did not differentiate between internal and external shame, instead using an overall score on the Experience of Shame Scale (Andrews et al, 2002) in their analysis. Harman and Lee (2009) contextualise their findings using the Ehlers and Clark (2000) cognitive model of PTSD, suggesting that shame can serve to initiate and maintain PTSD by continually activating self-criticism that in turn re-shames the individual, hence maintaining a current sense of threat. The individual lacks the ability to self-soothe or reassure themselves, meaning that the sense of threat is not diminished.

Lee, Scragg and Turner (2001) developed a cognitive model of shame and guilt based PTSD. They propose that shame can be a secondary emotion that arises after the trauma as the

person seeks to understand and apply meaning to the event. They suggest that shame can maintain PTSD by attacking the person's psychological integrity or the view they hold of themselves, which leads them to feeling powerless or inferior in some way. The distinction between internal and external shame is particularly important in the model. If a traumatic event such as an assault activates beliefs about the self as weak in some way for not preventing the event from happening then internal shame can be generated. If the person also feels that others will view them as damaged or weak for not defending themselves, them external shame will ensue.

It has been shown that shame is related to PTSD in a clinical sample and that people with PTSD have higher levels of shame than controls. Shame has also been shown to be important in a number of other psychopathologies. A group where high levels of shame may be expected is in people who have experienced psychosis.

Shame and Psychosis

People with psychosis often experience positive and negative psychotic symptoms, as well as other co-morbid conditions including anxiety and depression (Birchwood, 2003). There are a number of reasons why high levels of shame may be experienced by this population. Leeming and Boyle (2004) argue that stigma is an important social context that influences the development of shame. There is a substantial amount of evidence showing that mental illness in general, but particularly psychosis carries a severe social stigma. Estroff (1989) talks about psychosis as an 'I am' illness that can strongly impact on a person's self-identity, as the person can see themselves as defined by mental illness. If the person internalises negative beliefs and stigma associated with the belief 'I am schizophrenic or psychotic' this could lead to internal shame. Additionally external shame could be experienced if individuals felt themselves to be judged negatively by others because of their mental health status. Consistent with this, studies also show that people with a mental illness can internalise this stigma causing them to suffer from low self-esteem and shame (Corrigan, 1998; Birchwood, Mason, Macmillan et al, 1993) even over a two year follow up period (Link, Struening, Neese-Todd et al, 2001).

Birchwood, Trower, Brunet et al (2006) suggest that when social stereotypes are internalised this can lead to internal shame as people develop negative views about themselves, for

example seeing themselves as of low self-worth and socially unattractive. They argue that such beliefs will lead to behaviours related to trying to conceal their illness and social anxiety, for fear that it will be revealed and other people will think negatively of them (external shame). They looked at the relationship between social anxiety and external shame in people with first episode psychosis. They found that participants who were socially anxious experienced greater levels of external shame and felt more socially marginalised and of lower social status because of their diagnosis, compared to a non-anxious control group when depression and psychotic symptoms were controlled for. However the measure of shame was not specifically related to the experience of having psychosis as they draw their conclusions relating to shame from a subscale of the Personal Beliefs about Illness Questionnaire (PBIQ, Birchwood et al, 1993). Whilst it can be hypothesized that the shame is in relation to the label of a mental illness, specific conclusions about this cannot be drawn. The study also did not include a measure of internal shame.

There is also evidence that shame based appraisals about psychosis can lead to depression. Iqbal, Birchwood, Chadwick and Trower (2000) looked at how those with first episode psychosis appraised their illness and the impact that it had upon their sense of self. They found that the meaning given to the psychotic episode was important in predicting who developed post-psychotic depression. Participants with increased symptoms of depression had higher levels of shame, tended to blame themselves for their illness, felt a greater sense of loss in terms of social roles and felt they were of a lower social status because of their illness. However, this study did not use a specific measure of shame and also drew their conclusions relating to shame from a subscale of the PBIQ (Birchwood et al, 1993), which measures a more general sense of shame.

Posttraumatic stress disorder and psychosis

It has been shown that shame can play a role in PTSD. An additional reason to think that shame may feature in psychosis is the high rates of PTSD in this population. A series of empirical studies have found clinically significant levels of PTSD in people with a severe mental illness (SMI), with prevalence rates of PTSD varying significantly between studies from 0% (Tibbo, Swainson, Chue et al, 2003) to 75% (Rosenberg, Rosenberg, Wolford et al, 2000). Variability is likely to be due to methodological issues; including different assessment tools, the time point of the assessment, inclusion criteria and participant characteristics. In

their review Bendall, McGorry and Krstev (2006) concluded that approximately 50% of people with a psychotic disorder will also have clinically significant levels of PTSD. This is higher than rates in the general population where the lifetime prevalence of PTSD is estimated to be 7 – 9% (Kessler, Burglund & Demler et al, 2005; Breslau, Davies, Andreski et al, 1991). The high incidence of PTSD in people with psychosis is believed to be associated with an increased exposure to traumatic events during the lifetime (Mueser, Rosenberg & Goodman, 2002), including approximately 50% of people having experienced childhood sexual or physical abuse (Morgan & Fisher, 2007).

Research also suggests that people with SMI are at an increased risk of exposure to a traumatic event following the onset of their illness. Jankowski, Mueser and Rosenberg (2006) suggest that a number of environmental factors that are common consequences of suffering from a SMI including substance misuse, housing instability, homelessness, and engaging in risky behaviours can increase the likelihood of exposure to trauma, victimisation or violence. There are a large number of anecdotal and empirical studies that attest to the distressing nature of psychosis. Positive psychotic symptoms including persecutory delusions often involve powerful entities such as the government or the devil that threaten to harm the individual (Freeman & Garety, 2004) and hallucinations can involve critical and commanding voices telling the person to harm themselves (Trower, Birchwood, Meaden et al, 2004). The traumatic nature of treatment experiences, particularly hospitalisation, has also been well documented. Treatment can include coercive measures such as seclusion, restraint, enforced medication, involuntary admission to hospital and the involvement of the police in detention (Frueh, Knapp, Cuscack, et al, 2005).

There is a debate in the literature about whether symptoms and treatment experiences related to psychosis meet Criterion A as a triggering event for PTSD in the DSM-IV-TR (APA, 2000). The event must have 'involved actual or threatened death or serious injury' and whilst a person with psychosis may strongly believe this to be true, this is not observed to be the case by other people. The definition places a clear emphasis on threats to the physical self as opposed to psychological integrity and it has been argued that by doing so potentially traumatic stressors will be missed (Jackson & Birchwood, 2006). This issue has recently been investigated by Mueser, Lu, Rosenberg, et al (2010). They classified people with psychosis into two groups dependant on whether or not the psychosis related experience they reported

as the most traumatic met the A1/A2 criteria. They found that 39% of people would meet the full criteria for PTSD (including A1/A2) and that this increased to 66% for what they term 'PTSD syndrome' regardless of whether the event met A1/A2. Importantly, they found no difference in terms of distress (levels of PTSD symptoms, anxiety and depression) or functional impairment between the two groups. They argue that by insisting that the strict criterion is applied a large group of people who have high levels of distress and are functionally impaired by their symptoms will be missed and there trauma symptoms will not be treated.

Risk factors for the development of PTSD

Whilst there is growing evidence that people with psychosis experience traumatic events, it is clear that exposure alone is not sufficient for the development of PTSD. Research has now begun to look at why some people develop the disorder in response to a traumatic event, whilst others who are similarly exposed do not. Two meta-analyses examined the predictive effect of a number of factors in the development of PTSD across different populations, although neither included with people with a SMI (Brewin, Andrews & Valentine, 2000; Ozer, Best, Lipsey et al, 2003). Both analyses concluded that the strongest effect sizes were for factors that occurred at the time of or following the traumatic event. Social support was found to have one of the strongest effect sizes in both studies. Static variables including demographics (age, race and sex), IQ, educational level and previous psychiatric history had weak effect sizes that were not consistent across populations. Both meta-analyses found that there was considerable heterogeneity across the studies and that effect sizes for specific predictors were not consistent across the different trauma groups. Both therefore argue against trying to identify a common set of pre-trauma predictors of PTSD that will be valid across all traumatised groups.

In Psychosis

To date there have been two studies examining why some people develop PTSD in response to psychosis or its treatment, whilst others do not. Chisholm, Freeman and Cooke (2006) identified six factors found to be related to PTSD in external events and investigated if they applied to psychosis. The Impact of Events Scale was completed with the 'most difficult period' of the psychotic episode as the index event, so that only PTSD symptoms related to psychosis were measured as opposed to other previous traumas. The study reported that 61%

of people had symptoms of PTSD that were potentially severe enough to receive a diagnosis of PTSD. However they did not use the revised version of the IES (Weiss & Marmar, 1997) meaning that symptoms of hyper-arousal were not measured, which are a defining component of PTSD according to the DSM-IV-TR (APA, 2000). Participants who had a previous history of trauma, felt that they had a lower level of social support and felt helpless at the time of the psychotic episode had increased levels of PTSD symptoms. Beattie, Shannon, Kavanagh et al (2009) asked participants to complete the IES-R twice; once in relation to their most distressing psychotic symptom and once in relation to their most distressing psychiatric admission. They found that 45% and 31% of people had moderate to severe PTSD symptoms in respect to psychotic symptoms and admission respectively. Post-trauma variables were the strongest predictors of PTSD; with social support or a good relationship with mental health services and current affective symptoms (anxiety and depression) explaining the most variance in symptoms of PTSD.

The current study

The current study will look at the role that shame plays in the development of PTSD symptoms and depression in people with first episode psychosis. There is a body of literature that illustrates that people with psychosis also experience high levels of PTSD symptoms and depression, but to date there have been no studies that look at the contribution of shame. In line with Gilbert (1998) a measure of internal and external shame will be included. Very few empirical studies make the distinction between the two types of shame and have looked to see if they make different contributions to psychopathology. The current study will adapt measures of internal and external shame so that they are completed in relation to having a psychotic illness. This is in line with Leeming and Boyle (2004) who argue that due to the nature of shame it should be researched in relation to a specific context. The ESS is also included as measure of global shame, as this has been shown to assess shame independently of depression (Andrews et al, 2002) and has recently been used to assess general in a help seeking sample with PTSD (Harman & Lee, 2009).

The current study will also examine other potential factors that may contribute to the development of PTSD, using a framework based on known risk factors identified in previous studies. Peri-trauma factors were focused on because these were concluded to be the most powerful predictors of PTSD in two meta-analyses (Ozer et al, 2003; Brewin et al, 2000).

Chisholm et al (2006) found that an increased sense of helplessness, uncontrollability and a reduced sense of control at the time of the psychotic episode were correlated with increased symptoms of PTSD. Social support was also found to be a strong predictor in this study and both meta-analyses. The current study will look to see if these findings are replicated in a sample with first episode psychosis.

Hypotheses

Hypothesis 1: Consistent with the literature, higher levels of general shame will be associated with higher levels of depression. The relationship between internal and external shame with depression will also be examined.

Hypothesis 2: Consistent with the literature, higher levels of general shame will be associated with increased symptoms of PTSD related to psychosis. The relationship between internal and external shame with symptoms of PTSD will also be examined.

Hypothesis 3: Consistent with the literature, participants who felt that they had lower levels of crisis support, felt less in control and increasingly helpless at the time of their psychotic episode will have increased psychosis related symptoms of PTSD. The relationship between shame, depression and these variables will also be investigated.

Method

Design and Procedure

Ethical approval was obtained from the National Research Ethics Service prior to the commencement of the study (see Appendix 1). Potential participants were identified within three Early Intervention teams through their care coordinators. They were given an information sheet about the study (Appendix 2) and time to consider if they would like to take part. If they expressed an interest the chief investigator met with them to give them the opportunity to ask any questions about the study and written consent was taken if they met the inclusion criteria (see Appendix 3 for consent form). Participants were given a battery of self-report questionnaires and the IES-R was administered in the form of a structured interview. All of the measures were completed in a single appointment, either at the participant's home or at a local health centre.

Participants.

A total of 50 participants were recruited from three Early Intervention Teams within Birmingham and Solihull Mental Health Trust. The age of the participants ranged from 19 to 37 years old, with the mean age being 24.5 years. They were from a number of cultural backgrounds with 44% identifying themselves as White British, 34% Asian, 18% Black and 4% mixed race. Inclusion criteria for the study required participants to have a diagnosis of a psychotic disorder, as defined by the International Classification of Mental and Behavioural Disorders 10th Revision (ICD-10; World Health Organisation, 2007). The participants had all experienced a psychotic episode within the past 12 months, but they were only included in the study if their psychotic symptoms were in remission and they were not deemed to be acutely unwell by their care coordinator. In addition participants were not recruited into the study if they had been an inpatient or detained under the Mental Health Act (2007) within a month prior to the study.

Measures (see Appendix 4)

<u>Measures of Shame</u>

The Experience of Shame Scale (ESS; Andrews et al, 2002)

The ESS is a 25 item self-report questionnaire. It is designed to measure eight areas of shame which are grouped into three categories; characterological (shame about the sort of person you are, personal habits, personal ability and manner with others), behavioural (shame about saying something stupid, doing something wrong or failure in competitive situations) and bodily shame (shame about the body or its parts). For each of the eight areas three questions are asked; one direct question about the experience of shame (e.g., "have you felt ashamed of your manner with others"), one relating to concern about other people's opinions (e.g., "have you worried about what other people think of your manner with others") and a question relating to avoidance or concealment behaviour due to shame (e.g., "have you avoided people because of your manner"). Participants were asked to rate their experience on a 4 point scale, ranging from *1 = not at all* to *4 = very much*. Scores are summed to calculate an overall total and a total for each subscale, with higher scores indicating higher levels of shame. Andrews et al (2002) reported that the scale had high internal reliability (Chronbach's alpha = 0.92) and good re-test reliability. In the current study internal reliability was excellent for the overall scale (α = 0.95) and for each of the subscales; characterological (α = 0.93), behavioural (α = 0.92) and bodily shame (α = 0.81). Factor analysis has supported the existence of three separate subscales (Andrews et al, 2002) but other researchers (such as Harman & Lee, 2009) have found high correlations between the three subscales and therefore have grouped the subscales into a single measure of shame.

The Internalized Shame Scale (ISS; Cook, 1996)

The ISS was first developed in 1984 and since that time is has evolved and been adapted for use with a number of clinical populations. The current version is a 30 item self-report scale that has two subscales looking at internal shame (24 items) and self-esteem (6 items). It was decided to only use the results of the shame subscale, as the study aimed to look at the experience of internal shame related to psychosis. The shame subscale score is calculated by summing together the negatively worded shame items (e.g. "I feel I am never quite good enough") with a higher score indicating higher levels of internal shame. Participants were asked to rate the frequency with which they experience certain feelings on a five point scale ranging from *0 = never* to *4 = almost always*. Rosario and White (2006) report good re-test reliability and internal reliability with a Cronbach's alpha of .81 for the shame subscale. In order to measure each participant's level of internal shame in relation to psychosis the prefix

"Due to my illness or breakdown" was added at the start of each item. The internal reliability for this modified version of the shame subscale was excellent (α = 0.96).

The Other as Shamer Scale (OAS; Goss, Gilbert & Allan, 1994).

The OAS was derived directly from the ISS and is designed as a measure of external shame. It consists of 18 statements relating to how people think others view them (e.g. "Other people see me as not measuring up to them"). The participant rates the frequency that they experience the feeling expressed in the statement on a five point scale ranging from *0 = never* to *4 = almost always*. The score for each item is summed and a total score calculated, with a higher score indicating higher levels of external shame. The measure has been used extensively in studies of shame, including with clients with first episode psychosis where Birchwood et al (2006) report a Cronbach's alpha of 0.90. As with the ISS, the scale was modified to include the prefix "Due to my illness or breakdown" to directly assess the level of external shame the participant felt in relation to their illness (e.g. "Due to my illness or breakdown, I think that other people look down on me"). The internal reliability for this modified version of the ISS was excellent (α = 0.97).

<u>Psychosis related PTSD symptoms</u>

The Impact of Events Scale Revised (IES-R; Weiss & Marmar, 1997).

The scale was initially developed by Horowitz et al (1979) as a measure of PTSD symptoms and included two subscales that measured characteristics of a traumatic memory; intrusion (7 items, e.g. "Other things kept making me think about it") and avoidance (8 items, e.g. "I tried not to think about it"). It was later revised to include a 6 item subscale for hyper-arousal (e.g. "I was jumpy and easily startled") and a further item on intrusion so that it paralleled the DSM-IV (APA, 1994) diagnostic criteria for PTSD (Weiss & Marmar, 1997). The revised scale consists of 22 items and participants were asked to rate each item on a 5 point scale according to the frequency of its occurrence in the past week from *0 = not at all* to *4 = extremely*. A total score is calculated as well as scores for each of the three subscales, with higher scores indicating higher symptoms of PTSD. The IES can be used to categorise levels of PTSD (Chisholm, et al 2006). The four categories are subclinical (with a total score ranging from 0 to 8), mild (9 to 25), moderate (26 to 43) and severe (44 to 75) levels of PTSD. However, the IES is not intended to be used as a diagnostic tool for PTSD and these categories should only be viewed as indicative.

The IES-R was selected because it has demonstrated validity and reliability (Creamer, Bell, & Failla, 2003; Weiss & Marmar, 1997). It has been widely used with a number of clinical populations, including those with psychosis (Beattie, Shannon, Kavanagh et al, 2009; Bernard, Jackson & Jones, 2006; Harrison & Fowler, 2004). The IES-R is designed to assess subjective distress for a particular event or experience. Consistent with Chisholm et al (2006), participants were asked to recall 'the most distressing or traumatic experience' that occurred in relation to their psychotic illness and they were asked to provide an approximate date of when it occurred. To ensure that participants recalled distress from a particular aspect of their psychosis, as opposed to their illness in general, the scale was completed with the person using their index event. The first question on the IES-R asks if "any reminder brought back feelings about it". If the person said that the most distressing aspect of their illness was hearing a critical voice, then the researcher would ask "Has any reminder about the critical voice brought back feelings about it over the past seven days?" The participant would then rate their response on the five point scale. In the current study the internal reliability was good for the total scale (α = 0.89) and for each of the subscales; intrusion (α = 0.77), avoidance (α = 0.82) and hyper-arousal (α = 0.82).

Measure of depression

Beck Depression Inventory – II (BDI-II; Beck, Steer & Brown, 1996).

The BDI-II is a self-report measure designed to assess levels of depression. Participants are asked to rate how frequently they have experienced 21 symptoms of depression (for example sadness or self-dislike) on a four point scale, during the past two weeks. A total score is derived from adding together each individual item score and cut off scores are given as a guide to the severity of the depression, with 0-13 considered in the minimal range, 14-19 is mild, 20-28 is moderate, and 29-63 is severe (Beck et al, 1996). The measure has been widely used within a number of clinical populations, including those with psychosis. Dozios, Dobson and Ahnburg (1998) report high internal reliability with a Cronbach's alpha of .91. In the current study, internal reliability was excellent (α = 0.90).

Measures of peritraumatic factors

Perception of Helplessness Questionnaire (PHQ ; Joseph, Yule, Williams et al, 1994)

This measure was originally developed by Joseph et al (1994) in their study looking at correlates of PTSD from a shipping disaster. It was adapted by Chisholm et al (2006) in their study for use with psychosis. The measure consists of four items: *I thought I was going to die, I felt paralysed with fear, I felt helpless and I prepared myself for the worst.* Participants were asked to rate how much they agreed with the statements on a seven point scale ranging from *1 = strongly agree* to *7 = strongly disagree*. Participants were asked to think back to the time that they had previously identified in the IES-R as the most distressing period in their illness and to answer the questions in relation to that time. Chisholm et al (2006) reported a Cronbach's alpha score of .73, which is acceptable internal reliability. In the current study, internal reliability was higher ($\alpha = 0.81$).

Perceived Control Questionnaire (PCQ; Chisholm et al 2006)

The PCQ was devised to measure a person's perception of the amount of control they had during their psychotic episode. It consists of four statements and participants were asked to rate how much they agree with them on a seven point scale (*1 = strongly agree* to *7 = strongly disagree).* In line with the previous measures, participants were asked to record their responses thinking back to the most distressing period of their illness as identified in the IES-R. Low scores reflect a poor perception of control. Chisholm et al (2006) report poor internal reliability for this scale, with a Cronbach's alpha of .50. In the current study the internal reliability was acceptable ($\alpha = 0.78$).

Crisis Support Scale (CSS; Joseph, Yule, Williams et al, 1994)

The CSS was originally developed for use in the Joseph et al (1994) study and adapted by Chisholm et al (2006). It consists of seven items that assesses the person's perception of the level of support that they had during the most distressing period of their psychotic episode. Participants were asked to rate on a seven point scale from (*1 = strongly agree* to *7 = strongly disagree)* the degree to which they agree with each statement. A lower score reflects a higher perception of support. Chisholm et al (2006) report a Cronbach's alpha of .71, which is acceptable internal reliability. In the current study internal reliability was slightly lower but reaching acceptability ($\alpha = 0.68$).

Results

This section will begin by presenting the experiences that each of the participants reported as their most traumatic or distressing when they were unwell. An inspection of the structure of some of the questionnaires is conducted and then the descriptive statistics of the sample will then be explored. Correlation analysis and step-wise regression will then be presented to test each of the hypotheses in the study. A one-sample Kolmogorov-Smirnov Test was performed on each of the variables to check that the data was normally distributed. If there was a significant deviation from normality then non-parametric tests would have to be performed. However, all of the variables were found to be normally distributed so parametric tests were used.

Characteristics of the traumatic experience

All participants were able to think back to a previous episode when they were psychotic and describe a distressing or traumatic experience that had occurred during this time. Only one participant was unable to think of a specific event, saying that the whole episode had been traumatic. Table one shows the categories of trauma that were reported. Just over half of the participants (N = 26) identified a positive psychotic symptom as the experience that they found the most distressing. A substantial number (N = 11) identified a hospital admission or an event related to their admission as the most distressing. The third major category related to something that the person had done whilst they were unwell (N = 11). One participant identified a physical assault by his father when he was unwell.

Table 1. *Index event reported as the most distressing or traumatic by participants on the Impact of Events Scale-Revised (IES-R) (N = 50).*

Category of trauma	**Specific description of memory**	**Number of participants**
Psychotic symptoms	Paranoia or paranoid delusion	10
	Other type of delusion	4
	Negative auditory hallucination or voice(s)	8
	Visual hallucination(s)	1
	Thought disorder	3
Admission to hospital	Experience overall	9
	Specific event that happened whilst in hospital	2
Behaviour whilst unwell	Aggressive behaviour	3
	Arrested by police (for aggressive behaviour)	3
	Sexualised behaviour	1
	Bizarre behaviour	2
	Self-harm	1
	Attempted suicide	1
Being unwell during most recent psychotic episode	Unable to think of specific event	1
Abuse that occurred when unwell	Assault by Father	1

Descriptive statistics

66% of the participants were male (N = 33) and 34% were female (N = 17). An independent t-test was conducted on all variables to test for differences been males and females. No differences were found except for the perceived level of control at the time of the psychotic episode, with males (m = 14.39, SD = 5.27) reporting significantly higher levels of control than females (m = 10.94, SD = 5.06), t 48 = 2.22, $p<.05$.

Table 2. *Descriptive statistics of the measures used in the study.*

Measure	Mean	Standard Deviation
Impact of Events Scale-Revised	22.76	14.75
Beck Depression Inventory-II	16.19	10.27
Experience of Shame Scale	54.96	17.19
The Other as Shamer	27.53	19.11
Internalised Shame Scale	49.33	26.69
Perception of Helplessness Questionnaire	10.74	5.78
Perception of Control Questionnaire	13.22	5.41
Crisis Support Scale	20.59	7.86

Table 2 shows the mean score and the standard deviations for each of the measures used in the study. The mean score for the Beck Depression Inventory-II was 16.19 (SD = 10.27). Consistent with the scoring instructions for the BDI-II (Beck et al, 1996) scores are classified into four categories; with 20 people (40%) having minimal depression, 13 people (26%) as having mild depression, 9 people (18%) as having moderate and 8 people (16%) as having severe depression.

Psychosis related post-traumatic symptoms

There was a relatively high level of traumatic stress reported by participants in relation to their most distressing event, with a mean score of 22.76 (SD = 14.75) on the Impact of Events Scale-Revised. Consistent with previous categorisations of the IES-R (Chisholm et al, 2006) scores are grouped into four categories. There were 10 participants (20%) who could be categorised as having a subclinical PTSD reaction, 22 (44%) as having a mild reaction, 12 (22%) as having a moderate reaction and 6 participants (12%) as having a severe PTSD reaction to a symptom or event that occurred whilst they were psychotic. Thus overall, 18 people (34%) can be considered to have had a moderate or severe traumatic reaction to a previous psychotic episode.

As shown in Table 1 the type of trauma that was reported by the majority of the participants could be grouped into three categories; trauma related to a positive symptom of psychosis, an event related to a hospital admission or a behaviour that had occurred whilst they were unwell. Only two responses could not be placed into these categories, one because it was too general and the other because it was the behaviour of another person whilst the participant

was unwell. Table 3 shows the means and standard deviations for the three categories on each of the measures.

Table 3. *The mean scores for the three categories of trauma on each of the measures (N = 48)*

Measure	**Positive symptoms**		**Hospital admission**		**Behaviour whilst unwell**	
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**
IES-R	21.90	11.70	19.01	20.00	26.50	16.20
BDI-II	16.54	10.23	13.45	10.58	15.14	8.95
ESS	55.73	15.11	47.99	19.24	59.55	20.53
OAS	26.00	14.66	26.36	22.84	26.32	21.87
ISS	50.41	18.59	33.45	28.42	56.91	34.56
PHQ	10.15	5.83	10.55	4.89	12.45	7.05
PCQ	12.12	4.95	12.82	5.06	15.18	6.48
CSS	19.38	6.16	21.68	10.32	21.73	9.33

IES-R = Impact of Events Scale- Revised, BDI-II = Beck Depression Inventory, ESS = Experience of Shame Scale, ISS = Internalised Shame Scale, OAS = Other as Shamer, PHQ = Perception of Helplessness Questionnaire, PCQ = Perception of Control Questionnaire, CSS = Crisis Support Scale.

A one-way ANOVA was conducted to see if there was a difference between the three groups in terms of the level of depression, psychosis related PTSD symptoms, the type of shame that they reported or their perception of control, helplessness and level of crisis support. None of the ANOVA's was found to be significant. Only the one way ANOVA on internal shame was approaching significance, $F(1,48) = 2.63$, $p = .08$. From Table 3 it can be seen that participants reported greater internal shame in relation to positive symptoms ($M = 50.41$) and their behaviour whilst unwell (56.91) then they did in relation to a hospital admission (33.45). Overall, this shows that the type of event the person identifies as their most distressing does not affect the level of trauma symptoms they report in relation to the event, or the level of shame, depression, their perception of control, helplessness or crisis support. Instead, it indicates that positive symptoms of psychosis, treatment experiences related to hospitalisation and distressing behaviours associated with being psychotic are potentially as traumatising, depressing and shaming for people.

Structure of the questionnaires

The Impact of Events Scale-Revised (IES-R)

The three subscales on the IES-R (intrusion, hyper-arousal and avoidance) were moderately to highly correlated with each other; with correlations ranging from .47 to .56. They were also highly correlated with the overall IES-R score (ranging from.79 to .86). Therefore the subscales were not analysed separately and only the total EIS score is included in subsequent analysis.

The Experience of Shame Scale (ESS)

The three subscales on the ESS (characterological, bodily and behavioural shame) were highly correlated (correlations ranged from .50 to .78). This was also found by Harman and Lee (2009), so as in their study the three subscales were not explored separately and only the total score for the ESS has been included in subsequent analysis.

Correlation and regression analysis

Correlation analysis was conducted to test each of the hypotheses, the results of which are shown in Table 4. To minimise the effects of co-linearity upon the estimation of the significance of each variable, a backward elimination ordinal least squares regression analysis was then carried out. This analysis produces the maximally explanative regression equation with the minimum number of predictor variables. Accordingly, this strategy is particularly useful in situations in which the predictor variables are themselves intercorrelated (i.e., measure shared variance), as it is possible to reduce the number of predictor variables (and as consequence also reduce the colinearity between predictor variables) without significant reduction of prediction accuracy.

Table 4. *Correlations between each of the variables (N = 50)*

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
1. BDI-II – total													
2. IES-R – total	.42**												
3. IES-R – Intrus	.31*	.85**											
4. IES-R –Hyper	.54**	.79**	.56**										
5. IES-R –Avoid	.23	.86**	.56**	.47**									
6. ESS – total	.44**	.57**	.57**	.44**	.41**								
7. ESS-Charact	.45**	.56**	.55**	.50**	.38**	.95**							
8. ESS-Behave	.31*	.61**	.62**	.41**	.49**	.92**	.78**						
9. ESS-Bodily	.43**	.10	.15	.04	.07	.67**	.52**	.50**					
10. ISS – total	.73**	.48**	.38**	.37**	.43**	.66**	.62**	.58**	.49**				
11.OAS – Total	.57**	.64**	.52**	.52**	.54**	.59**	.54**	.59**	.33*	.78**			
12.PHQ Help	-.21	-.20	-.15	-.06	-2.7	-.14	-0.6	-.20	-.15	-.19	-.32*		
13.PCQ Control	-.41**	-.19	-.21	-.17	-.10	-.23*	-.25	-.29	-.21	-.39**	-.21	.46**	
14.CSS Support	.22	.27	.34*	.19	.14	.40**	.43**	.30*	.26	.12	.16	-.01	-.18

** Correlation is significant at the 0.01 level * Correlation is significant at the 0.05 level

BDI-II = Beck Depression Inventory, IES-R = Impact of Events Scale Revised, IES Intrus = Intrusion subscale, IES Hyper = Hyper-arousal subscale, IES Avoid = Avoidance subscale, ESS = Experience of Shame Scale, ESS Charact = Characterological shame subscale, ESS Behave = behavioural shame subscale, ESS Bodily = Bodily shame subscale, ISS = Internalised Shame Scale, OAS = Other as Shamer, PHQ = Perception of Helplessness Questionnaire, PCQ = Perception of Control Questionnaire, CSS = Crisis Support Scale.

Hypothesis 1: Higher levels of general shame will be associated with higher levels of depression. The relationship between internal and external shame with depression will also be examined.

The results of the correlation analysis showed that depression (as measured by the BDI-II) was significantly correlated with general ($r = .45$, $p<0.01$), internal ($r = .73$, $p<0.01$) and external ($r = .57$, $p<0.01$) shame. Therefore, participants who reported higher levels of depression also reported higher levels of shame on all of the three measures of shame. In the subsequent regression analysis, only variables that were found to be significantly correlated with the BDI-II (as shown in Table 4) were entered into the regression analysis. Therefore, general shame (ESS), internal shame (ISS), external shame (OAS), trauma (IES-R) and perception of control (PCQ) were then entered into a backward elimination least squares regression analysis, with depression (BDI-II total score) as the dependant variable. A significant multiple correlation was observed for the final regression model ($r = .73$, $F_{(1, 49)} = 54.33$, $p = < 0.01$, $N = 50$), indicating that approximately 53% ($R^2 = .53$) shared variance between depression and the predictor variable remaining in the model (internalised shame). However, the results of this analysis showed that only internal shame, (scores on the ISS), significantly contributed to the prediction of depression ($ß = .73$, $t = 7.38$, $p= < .001$).

Hypothesis 2: Higher levels of general shame will be associated with increased symptoms of PTSD related to psychosis. The relationship between internal and external shame with symptoms of PTSD will also be examined.

Correlation analysis showed that PTSD symptoms associated with psychosis (total score on the IES-R) was highly correlated with general ($r = .57$, $p<0.01$), internal ($r = .48$, $p<0.01$) and external ($r = .64$, $p<0.01$) shame, as shown in Table 4. The relationship between trauma and shame was then examined in more detail in a regression analysis. As before, only variables found to be significantly correlated with the IES-R were entered into the analysis. Therefore, trauma (IES-R), general shame (ESS), internal shame (ISS), external shame (OAS), and depression (BDI-II) were evaluated using a backward elimination least squares regression analysis. A significant multiple correlation was observed for the final complete regression model ($r = .68$, $F_{2, 49} = 20.14$, $p = < 0.001$, $N = 50$), indicating approximately 46% ($R^2 = .46$) shared variance between symptoms of PTSD and the two predictor variables remaining in the model. The results of this analysis are summarised in Table 5.

Table 5. *Regression Co-efficients for the Impact of Events scale-Revised*

	B	Std. error of beta	Beta	t	p-level
General Shame	.26	.11	.30	2.26	.029
External Shame	.35	.10	.46	3.47	.001

Results from the correlation analysis showed that participants who reported higher levels of general shame, internal shame and external shame had higher levels of symptoms of PTSD. However as shown in Table 5, results from the regression analysis indicate that only external shame as measured by the Other as Shamer Scale (ß = .35, t = 3.47, p = 0.01, N = 50) and general shame as measured by the Experience of Shame Scale (ß = .26, t = 2.26, p = 0.029, N = 50) made independent contributions to symptoms of PTSD whilst controlling for the other variables, whereas internal shame does not.

Hypothesis 3: Participants who felt that they had lower levels of crisis support, felt less in control and increasingly helpless at the time of their psychotic episode will have increased psychosis related symptoms of PTSD. This hypothesis also examined the relationship between these variables, shame and depression.

Unexpectedly, no correlation was found between the overall level of PTSD symptoms associated with psychosis (as measured by the total score on the IES-R) and crisis support, perception of control or the perception of helplessness at the time of the psychotic episode. However, there was a correlation between intrusive re-experiences of the traumatic event (as measured by the intrusion subscale on the IES-R) and crisis support ($r = .34$, $p<0.05$). This showed that people who perceived that they had a lower level of support at the time of their psychotic episode experienced higher levels of intrusions related to the most distressing aspect of it. There were also some interesting correlations between perception of helpfulness, control, and support with depression and shame which will now be examined.

<u>Perception of Helplessness</u>

The Perception of Helplessness Questionnaire correlated with the Other as Shame Scale ($r = -.32$, $p<0.05$), indicating that those participants who felt increasingly helpless at the time they were unwell experienced more external shame in relation to their illness. Perception of helplessness did not correlate significantly with either general or internal shame.

Perception of Control

There was a correlation between depression and perception of control ($r = -.41$, $p<0.01$). Participants who felt that they had less control about what was happening to them during their psychotic episode had higher levels of depression. There was also a significant correlation between perception of control and general shame (ESS) ($r = -.23$, $p<0.05$) and internal shame (ISS) ($r = -.39$, $p<0.01$). Those participants who felt less in control whilst unwell reported higher levels of general and internal (but not external) shame.

Perceived crisis Support

Finally, there was a correlation between the perceived level of crisis support (CSS) and general shame (ESS) ($r = .40$, $p<0.01$), with participants who reported higher levels of general shame having a lower perceived level of social support whilst they were unwell. The level of crisis support did not correlate with either internal or external shame.

Discussion

The study explored the relationship between different types of shame, depression and current symptoms of PTSD related to a previous episode of psychosis. It also looked at their relationship with certain factors occurring at the time of the psychotic episode (crisis support, perceived helplessness and control).

Shame and depression

The current study adds support to previous findings that people with psychosis have high levels of post-psychotic depression. The current study found that approximately one third of people (34%) had levels of depression that would be categorised as moderate or severe on the BDI-II (Beck et al, 1996). This finding is similar to Iqbal et al (2000) who reported a post-psychotic depression rate of 36% in people with first episode psychosis. The first hypothesis was supported; consistent with previous research in other populations high levels of shame were found to be associated with increased symptoms of depression (Andrews, 1995; Andrews & Hunter, 1997). The present study to our knowledge was the first to look at the

contribution of different types of shame to depression in people with psychosis. It was found that people who felt more internal and external shame in relation to their psychosis and shame in general had higher levels of depressive symptoms. However, internal shame remained the only predictor of depression when all of the factors were looked at together. This finding is different from Matos and Pinto-Gouveia (2009, 2010) who reported that external shame was a stronger predictor of depression than internal shame. However, as discussed previously the measure of internal shame is actually a measure of shame more globally, therefore any comparisons between the two types of shame must be interpreted with caution. They also used a non-clinical sample and they did not relate shame to a specific context, unlike in the current study where shame was measured specifically in relation to psychosis. This could also account for the differences in findings between the two studies.

Shame and PTSD

The current study also examined the relationship between different types of shame and PTSD. The second hypothesis was supported in that higher global shame was associated with increased levels of psychosis related PTSD symptoms. This finding is consistent with previous research looking at the relationship between shame and PTSD in a clinical sample (Harman and Lee, 2009) and replicates the findings using a sample of people with first episode psychosis. It also supports previous research showing that shame plays an important role in PTSD (Grey et al, 2001; Holmes et al, 2005). However, the current study did not try to establish whether shame was experienced at the time of the event or if it came afterwards as a response to it. To our knowledge this is the first study that has demonstrated the role of shame in psychosis related PTSD. Internal and external shame were also found to be positively associated with psychosis related symptoms of PTSD. However, external and global shame were shown to have the strongest relationship with PTSD symptoms when all other factors were controlled for. The relationship between different types of shame and PTSD symptoms has not been investigated before, to our knowledge.

Psychosis related PTSD symptoms

The findings add further support to the large body of literature that shows people with psychosis have clinically significant levels of PTSD (Morrison et al, 2003). The current study assessed the levels of PTSD symptoms in relation to a recent episode of psychosis. Although a diagnosis of PTSD would need to be established with a clinical interview, it was found that

approximately one third (34%) of people had symptoms of PTSD in relation to a distressing aspect of a previous psychotic episode that would be classified as moderate or severe. This is lower than the estimate by Bendall et al (2006) in their review who concluded that approximately one half will have clinically significant levels of PTSD symptoms. However, it should be noted that in their review the majority of studies measured symptoms in relation to any previous lifetime traumatic event, whereas the current study asked specifically about symptoms in relation to psychosis. The current study is also lower than Chisholm et al (2006) who found a rate of 61% and Beattie et al (2009) who do rate symptoms in relation to psychosis. However, studies with participants who are in the early phase of their illness or within an early intervention service tend to find lower rates. The rate found in the current study is similar to that found by Jackson, Knott and Skeate (2004) who reported a prevalence rate of 31%. Chisholm et al (2006) found that people with first episode psychosis had a significantly lower score on the IES than people who had multiple episodes. They suggest a cumulative effect, with repeated episodes of psychosis producing a greater traumatic response.

Traumatic event related to PTSD

The current study asked participants to identify the aspect of psychosis that they found the most distressing. It was found that events could be broadly grouped into three categories relating to positive psychotic symptoms, hospitalisation or behaviours the person had done whilst they were unwell. The latter category included sexualised, aggressive or bizarre behaviours, which have not been identified as potentially shaming or traumatising experiences in previous studies. Studies tend to either ask specifically about symptoms or a hospital admission (for example Beattie et al, 2009) or ask participants to think about an episode of psychosis as a whole (for example Jackson, Knott & Skeate, 2004). The current study suggests that this may miss a significant amount of events that are very distressing. Over half of participants reported a positive symptom of psychosis as the most traumatic aspect. This is consistent with the majority of previous research that found symptoms of psychosis are experienced as more traumatic and have a stronger relationship with symptoms of PTSD, than treatment related experiences (Mueser et al, 2010; Beattie et al, 2009; Morrison & Frame, 2001; Meyer, Taiminen, Vuori et al, 1999).

The current study looked to see if any of the three types of event were more strongly correlated with depression, shame or trauma symptoms. It was found that participants experienced positive symptoms, treatment related experiences and behaviours equally as traumatic and shaming and that no group was significantly more correlated with depression. However, it should be noted that once the sample had been split into the three groups the samples in each were relatively small, particularly for hospital related experiences and behaviours. People who reported psychotic symptoms as the most distressing had higher levels of internal shame, although this did not quite reach significance. Further research with a larger sample size may be needed to look at the relationship between the type of traumatic event and the different types of shame associated with them.

Factors operating at the time of the trauma

The third hypothesis was partly supported. The level of crisis support at the time of the psychotic episode was found to correlate with intrusions, but not overall levels of PTSD symptoms as found by Chisholm et al (2006) and predicted by previous meta-analysis (Brewin et al, 2000; Ozer et al, 2003). People who felt that they had less support at the time of their psychotic episode may have been less likely to have talked through what was happening to them. In line with Ehlers and Clark (2000), this could have hindered the processing of the event and the encoding of it into the memory allowing it to be re-experienced through intrusions. It is interesting that crisis support was found to be correlated with general shame, but not internal or external shame. It is not clear why this is the case, but it may suggest that people with higher levels of shame generally are less likely to seek support from others. How helpless the person felt at the time they were unwell did not correlate with symptoms of PTSD, unlike in the Chisholm et al (2006) study. However, those who felt more helpless had higher levels of internal shame. Consistent with Chisholm et al (2006) the amount of control that a person felt they had at the time of a psychotic episode did not influence the level of traumatic symptoms. However, perception of control was related to both internal and external shame. This suggests that the sense of losing control is a particularly shaming experience for people with psychosis. It could be that by losing control they have let themselves down in some way (internal shame) or if they have lost control in front of others this could be experienced as embarrassing and result in external shame. Further research is needed to look at the relationship between the different types of shame and social support, helplessness and perception of control.

Methodological limitations

A number of studies have highlighted the problem with the heavy reliance on self-report measures that dominates the literature base on PTSD (Ozer et al, 2003). The current study tried to overcome this by completing the IES-R with participants to ensure that a specific traumatic event located within a specified time frame was generated. It is possible that there was an under-reporting of traumatic symptoms and shameful experiences in the study. Research has shown that clients find it difficult to disclose and talk about experiences that they find shameful (Macdonald and Morely, 2001). Mental illness has been shown to be associated with high levels of stigma that can be internalised as shame (Corrigan, 1998). The researcher met the participants once to complete the assessments; therefore only a limited relationship or rapport could be established. It could be that participants found it difficult to disclose shameful experiences, leading to an underestimation of the levels of shame. The current study chose to look at PTSD in relation to psychosis. However, it is likely that people with psychosis have experienced multiple traumatic events over their lifetime (Mueser et al, 2002). The impact of these traumas on the development of later symptoms of PTSD is not known and it is feasible that some participants could have had symptoms of PTSD prior to the traumatic event, which may bias the results.

Ozer et al (2003) highlight the difficulties with retrospective designs linked to self-reported information. The current study required participants to identify a traumatic event that had occurred whilst they were unwell, often a number of months or even years before. They then had to recall how much support they had and how in control or helpless they felt at the time. It is not known how reliable this information is. The time between the traumatic event and when the study was carried also out varied considerably. However, the time between the traumatic event and the assessment was examined to see if this influenced the level of PTSD symptoms, depression or shame and this was not found to be significant. Ozer et al (2003) suggest that longitudinal designs with populations that have been identified at risk of developing PTSD would be helpful to look at why some people develop PTSD symptoms in response to a traumatic event, whilst others do not.

Implications

The study has shown that the distinctions made by Gilbert (1998) between internal and external shame are important ones and that they can potentially have different contributions to

psychopathology. In this study they were found to contribute to depression and PTSD differently. This has implications for previous and future research because it shows that it is not enough to simply include one measure of shame and draw conclusions from this. The study has also completed the measures of shame specifically in relation to the context of having psychosis, which has not been done before. This is important because it has been argued that shame is not a global trait that is stable over time and across different contexts (Leeming & Boyle, 2004). Further research is needed to look at the different types of shame and their relationships with psychopathology in other clinical and non-clinical populations.

The current study has shown that people with psychosis experience symptoms of PTSD in relation to their illness and that they are associated with shame. Clinicians need to be aware of and ask about shame and the prevalence of traumatic symptoms after the remission of a psychotic episode. There are few intervention studies that target symptoms of trauma or shame in people with psychosis. In a series of studies, Mueser and colleagues (2008; 2007; 2004) developed a manualised treatment approach to treat the symptoms of PTSD in people with a severe mental illness based using cognitive restructuring, a technique found to be successful in other populations. Frueh, Buckley, Cusack, et al (2009) developed a programme based on exposure based therapy for people with SMI. Only Jackson, Trower, Read et al (2009) considered addressing shame based appraisals in their intervention trial. Although a measure of shame was not included, a reduction in PTSD symptoms (but not anxiety or depression) was observed using the IES in the intervention group when compared to a treatment as usual control. Lee et al (2001) warn against using traditional interventions including cognitive exposure with people who have high levels of shame related to the trauma, as it has been shown to be ineffective or potentially damaging. Gilbert (2005) has developed Compassionate Mind Training (CMT) for people who experience high levels of shame and self-criticism. In addition, Mayhew and Gilbert (2008) present a series of case studies where they successfully use CMT for people with psychosis who hear malevolent voices. They found that it reduced affective symptoms including anxiety and depression and the distressing nature of the voices. Further research is needed to look at the effectiveness of CMT with people with psychosis and if it could be used to reduce the distressing nature of shame memories. Leeming and Boyle (2004) also emphasise that an important part of therapy may be helping clients to make changes in relationships or the social environment that they find shaming.

Conclusions

The current study set out to investigate the relationship between shame, depression and symptoms of PTSD in people with first episode psychosis. Previous research had found that shame played a role in a number of other psychological disorders, including depression and more recently PTSD. There was also evidence that people with psychosis experienced stigma and shame related to their illness. However, there had not been any research looking at the relationship between shame and symptoms of PTSD with this group. Previous research was also limited in that it did not differentiate between different types of shame. Participants identified a traumatic event from a previous psychotic episode and PTSD symptoms were measured specifically in relation to this, to try and avoid measuring symptoms related to other lifetime traumas. Participants were asked about internal and external shame in the specific context of having a mental illness and also general shame. The results of the study showed that consistent with previous research, a significant proportion of people had high levels of post-psychotic symptoms of PTSD and depression. It was found that internal shame made an independent contribution to depression, whilst external and general shame made independent contributions to psychosis related symptoms of PTSD. This has implications for future research as it suggests that shame is not a single, stable concept that can be assessed using a one measure and that studies need to differentiate between internal and external shame, to reflect the literature and some theoretical models on shame. Further research is needed to see whether the findings in this study can be replicated in other clinical and non-clinical samples. The study has clinical implications by highlighting that people with psychosis experience high levels of distress and that interventions need to be developed with this group to address symptoms of shame, trauma and depression.

References

Andrews, B. (1998).Methodological and definitional issues in shame research. In P. Gilbert, & B. Andrews, (Eds.) *Shame: Interpersonal behavior, psychopathology, and culture* (pp. 39–54). New York: Oxford University Press.

Andrews, B. (1995). Bodily shame as a mediator between abusive experiences and depression. *Journal of Abnormal Psychology*, *104,* 277-285.

Andrews, B., Brewin, C., Rose, S. & Kirk, M. (2000). Predicting PTSD symptoms in victims of violent crime: The role of shame, anger and childhood abuse. *Journal of Abnormal Psychology, 109,* 1, 69-73.

Andrews, B. & Hunter, E. (1997). Shame, early abuse and course of depression in a clinical sample: A preliminary study. *Cognition & Emotion*, *11*, 373–381.

Andrews, B., Qian, M., & Valentine, J.D. (2002). Predicting depressive symptoms with a new measure of shame: The Experience of Shame scale. *The British Journal of Clinical Psychology*, *41*, 29–42.

American Psychiatric Association (2000). *Diagnostic and Statistical Manual of Mental Disorders 4th Edition Text Revision.* American Psychiatric Publishing Inc.

American Psychiatric Association (1980). *Diagnostic and Statistical Manual of Mental Disorders 3rd Edition.* American Psychiatric Publishing Inc.

Bendall, S., McGorry, P. & Krstev, H. (2006). The trauma of being psychotic: An analysis of posttraumatic stress disorder in response to acute psychosis. In Larkin, W. & Morrison, A. P. (Eds). *Trauma and Psychosis. New Directions for Theory and Therapy.* Routledge.

Beattie, N., Shannon, C., Kavanagh, M. & Mulholland, C. (2009). Predictors of PTSD symptoms in response to psychosis and psychiatric admission. *The Journal of Nervous and Mental Disease, 197,* 1, 56–60.

Beck, A. T., Steer, R. A. & Brown, G. B. (1996). *Manual for the Beck Depression Inventory-II.* Psychological Corporation, San Antonio, TX.

Bernard, M., Jackson, C. & Jones, C. (2006). Written emotional disclosure following first episode psychosis: Effects on symptoms of post-traumatic stress disorder. *British Journal of Clinical Psychology, 45,* 1-14.

Birchwood, M., Trower, P., Brunet, K., Gilbert, P., Iqbal, Z. & Jackson, C. (2006). Social anxiety and the shame of psychosis: A study in first episode clients. *Behaviour Research and Therapy, 45,* 1025-1037.

Birchwood, M., Mason, R., Macmillan, F. & Healey, J. (1993). Depression, demoralisation and control over psychotic illnesses. *Psychological Medicine, 23,* 387-395.

Breslau, N., Davis, G. C., Andreski, P. & Peterson, E. (1991). Traumatic events and posttraumatic stress disorder in an urban population of young adults. *Achieves of General Psychiatry, 48,* 216-222.

Brewin, C.R., Andrews, B., & Rose, S. (2000). Fear, helplessness and horror in posttraumatic stress disorder: Investigating DSM-IV Criterion 2A in victims of violent crime. *Journal of Traumatic Stress*, *13*, 499–509.

Brewin, C. R., Andrews, B. & Valentine, J. D. (2000). Meta-analysis of risk factors for posttraumatic stress disorder in trauma exposed adults. *Journal of Consulting and Clinical Psychology, 68,* 5, 748-766.

Brewin, C. R., Dalgleish, T., & Joseph, S. (1996). A dual representation theory of posttraumatic stress disorder. *Psychological Review*, *103*, 4, 670–686.

Budden, A. (2009). The role of shame in posttraumatic stress disorder: A proposal for a socio-emotional model for DSM-IV. *Social Science and Medicine, 69,* 1932-1039.

Cheung, M. Gilbert, P. and Irons, C. (2004). An exploration of shame, social rank and rumination in relation to depression. *Personality and Individual Difference, 36,* 1143-1153.

Chisholm, B. Freeman, D. Cooke, A. (2006) Identifying potential predictors of traumatic reactions to psychotic episodes. *British Journal of Clinical Psychology*, *00*, 1-16.

Conus, P., Berk, M. & Shafer, I. (2009). Trauma and psychosis: some aspects of a complex relationship. *Acta Neuropsychiatrica, 2,* 148-150.

Cook, D. R. (1996). Empirical studies of shame and guilt: The internalized shame scale. In *Knowing Feeling: Affect, Script and Psychotherapy*, Nathanson, D. L. (Ed). Norton: New York; 132–165.

Corrigan, P. W. (1998). The impact of stigma on severe mental illness. *Cognitive and Behavioural Practice, 5,* 201-222.

Creamer, M., Bell, R., & Failla, S. (2003). Psychometric properties of the Impact of Events Scale- Revised. *Behaviour Research and Therapy, 41,* 1489–1496.

Dozois, D., Dobson, K. & Ahnberg, J. (1998) A Psychometric Evaluation of the Beck Depression Inventory-II. *Psychological Assessment, 10,* 2, 83-89.

Ehlers, A. & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy*, *38*, 319–345.

Estroff, S. E. (1989). Self, identity, and subjective experiences of schizophrenia: In search of the subject. *Schizophrenia Bulletin, 15,* 2, 189-196.

Frame, L. & Morrison, A. (2001). Causes of Posttraumatic stress disorder in psychotic patients. *Achieves of General Psychiatry, 58,* 305–306.

Freeman, D. & Garety, P. A. (2000). Comments on the content of persecutory delusions: Does the definition need clarification? *British Journal of Clinical Psychology, 39,* 407-414.

Frueh, C., Buckley, T. C., Cusack, K. J., Kimble, M. O., Grubaugh, A. L., Turner, S. M. & Keane, T. M. (2004). Cognitive-Behavioral Treatment for PTSD among People with

Severe Mental Illness: A Proposed Treatment Model. *Journal of Psychiatric Practice, 10,* 1, 26-38.

Frueh, C., Knapp, R., Cuscack, K., Grubaugh, A., Sauvageot, A. & Cousins, V. (2005). Patients reports of traumatic or harmful experiences within the psychiatric setting. *Psychiatric Services, 56,* 9, 1123–1133.

Gilbert, P. (2005). *Compassion: Conceptualisations, research and use in psychotherapy.* Routledge.

Gilbert, P. (1998). What is shame? Some core issues and controversies. In P. Gilbert, & B. Andrews, (Eds.) *Shame: Interpersonal behavior, psychopathology, and culture*. New York: Oxford University Press.

Gilbert, P. (1997). The evolution of social attractiveness and its role in shame, humiliation, guilt and therapy. *The British Journal of Medical Psychology, 70,* 113-147.

Gilbert, P. & Leahy, R. (2007). Introduction and overview: Basic issues in the therapeutic relationship. In Gilbert, P. & Leahy, R. (Eds). *The Therapeutic Relationship in the Cognitive Behavioural Psychotherapies.* Hove: Routledge.

Gilbert, P. & Procter, S. (2006). Compassionate mind training for people with high shame and self-criticism: overview and pilot study of a group therapy approach. *Clinical Psychology and Psychotherapy, 13,* 353–379.

Goss, K., Gilbert, P. & Allan, S. (1994). An exploration of shame measures: I: The other as shamer scale. *Personality and Individual Differences*, *17*, 713-717.

Grey, N., Holmes, E., & Brewin, C.R. (2001). Peri-traumatic emotional 'hotspots' in traumatic memory: A case series of patients with posttraumatic stress disorder. *Behavioural and Cognitive Psychotherapy*, *29*, 367–372.

Harman, R. & Lee, D. (2009). The role of shame and self-critical thinking in the development and maintenance of current threat in post-traumatic stress disorder. *Clinical Psychology and Psychotherapy, 17,* 1, 13-24.

Harrison, C. & Fowler, D. (2004). Negative symptoms, trauma and autobiographical memory: An investigation of individuals recovering from psychosis. *The Journal of Nervous and Mental Disease, 192*, 11, 745-753.

Holmes, E.A., Grey, N., & Young, K. (2005). Intrusive images and 'hotspots' of trauma memories in posttraumatic stress disorder. *Journal of Behavior Therapy and Experimental Psychiatry*, *36*, 3–17.

Horowitz, M. J.,Wilner, N., & Alverez, M. A. (1979). Impact of Event Scale: A measure of subjective stress. *Psychosomatic Assessment, 4,* 67–76.

Iqbal, Z., Birchwood, M., Chadwick, P. & Trower, P. (2000). Cognitive approach to depression and suicidal thinking in depression 2: Testing the validity of the social ranking model. *British Journal of Psychiatry, 177,* 522-528.

Jackson, C. & Birchwood, M. (2006). Trauma and first episode psychosis. In Larkin, W. & Morrison, A. P. (Eds). *Trauma and Psychosis. New Directions for Theory and Therapy.* Routledge.

Jackson, C., Knott, C., Skeate, A. & Birchwood, M. (2004). The trauma of first episode psychosis. *Australian and New Zealand Journal of Psychiatry, 38,* 327–333.

Jackson, C., Trower, P., Read, I., Smith, J., Hall., Townend, M., Barton, K., Jones, J., Ross, K., Russel, E., Dunn, G. & Birchwood, M. (2009) Improving psychological adjustment following a first episode of psychosis: A randomised control trial of cognitive therapy to reduce post psychotic trauma symptoms. *Behaviour Research and Therapy, 47,* 454-462.

Jankowski, M. K., Mueser, K. & Rosenberg, S. D. (2006). Psychosis with comorbid PTSD. In Larkin, W. & Morrison, A. P. (Eds). *Trauma and Psychosis. New Directions for Theory and Therapy.* Routledge.

Joseph, S., Yule,W.,Williams, R., & Hodgkinson, P. (1994). Correlates of post-traumatic stress at 30 months: The Herald of Free Enterprise disaster. *Behaviour Research and Therapy, 32,* 521–524.

Kessler, R. C., Burglund, P., Demler, O., Jin, R., Merikangas, R. & Walters, E. (2005). Lifetime Prevalence and Age-of-Onset Distributions of *DSM-IV* Disorders in the National Comorbidity Survey Replication. *Achieves of General Psychiatry, 62,* 593-602.

Lee, D., Scragg, P. & Turner, S. (2001). The role of shame and guilt in traumatic events: A clinical model of shame-based and guilt based PTSD. *British Journal of Medical Psychology*, *74,* 451-466.

Lemming, D. & Boyle, M. (2004). Shame as a social phenomenon: A critical analysis of the concept of dispositional shame. *Psychology and Psychotherapy: Research, Theory and Practice, 77,* 375-396.

Leskela, J., Dieperink, M. & Thuras, P. (2002). Shame and Posttraumatic Stress Disorder. *Journal of Traumatic Stress, 3,* 223-226.

Link, B. G., Struening, E. L., Neese-Todd, S., Asmussen, S. & Phelan, J. (2001). The consequences of stigma for the self-esteem of people with mental illnesses. *Psychiatric Services, 52,* 12, 1621-1626.

Macdonald, J. & Morely, I. (2001). Shame and non-disclosure: A study of the emotional isolation of people referred for psychotherapy. *British Journal of Medical Psychology, 74,* 1-21.

Matos, M. & Pinto-Gouveia, J. (2009). Shame as a traumatic memory. *Clinical Psychology and Psychotherapy.* DOI: 10.1002/CPP.659.

Mayhew, S. L. & Gilbert, P. (2008). Compassionate mind training with people who malevolent voices: A case series report. *Clinical Psychology and Psychotherapy, 15,* 113-138.

Meyer, H., Taiminen, T., Vuori, T., Aijala, A. & Helenius, H. (1999). Posttraumatic stress disorder symptoms related to psychosis and acute involuntary hospitalisation in schizophrenic and delusional patients. *Journal of Nervous and Mental Disease, 187,* 6, 343–352.

The Mental Health Act (2007). http://www.opsi.gov.uk/ACTS/acts2007/pdf/ukpga_20070012_en.pdf.

Mokros, H. B. (1995). Suicide and Shame. *American Behavioral Scientist,* 38, 1091.

Morgan, C. & Fisher, H. (2007). Environmental factors in schizophrenia: childhood trauma – a critical review. *Schizophrenia Bulletin, 33,* 3-10.

Morrison, A., Frame, L. & Larkin, W. (2003). Relationships between trauma and psychosis: A review and integration. *British Journal of Clinical Psychology, 42,* 331-353.

Mueser, K. Lu, W., Rosenberg, S. D. & Wolfe, R. (2010). The trauma of psychosis: Posttraumatic stress disorder and recent onset psychosis. *Schizophrenia Research, 116*, 217–227.

Mueser, K. T., Hamblen, J. L. & Rosenberg, H. (2008) A randomised controlled trial of cognitive behavioural treatment for post traumatic stress disorder in severe mental illness. *Journal of Consulting and Clinical Psychology, 76*, 2, 259–271.

Mueser, K., Bolton, E., Carty, P. C., Bradley, M. J., Ahlgren, K. F., DiStaso, D. R. & Gilbride, A. (2007). The trauma recovery group: A cognitive-behavioural program for post-traumatic stress disorder in persons with severe mental illness. *Community Mental Health Journal, 43,* 3, 281–303.

Mueser, K. T., Rosenberg, H., Jankowski, M. K. & Hamblen, J. L. (2004). A cognitive behavioural treatment programme for posttraumatic stress disorder in persons with severe mental illness. *Journal of Psychiatric Rehabilitation, 7,* 107-146.

Mueser, K. T., Rosenberg, H. & Goodman, L. (2002). Trauma, PTSD and the course of severe mental illness: an interactive model. *Schizophrenia Research*, 123-143.

Ozer, E., Best, S., Lipsey, T. L. & Weiss, D. (2003). Predictors of posttraumatic stress disorder and symptoms in adults: A meta-analysis. *Psychological Bulletin, 129,* 1, 52-73.

Pinto-Gouveia, M. & Matos, M. (2010). Can shame memories become a key to identity? The centrality of shame memories predicts psychopathology. *Applied Cognitive Psychology,* DOI: 10.1002/CPP.1689.

Rosario, P. & White, R. M. (2006). The Internalized Shame Scale: Temporal stability, internal consistency, and principal components analysis *Personality and Individual differences, 41,* 1, 95-103.

Rosenberg, H., Rosenberg, S. D., Wolford, G. L., Manganiello, P. D., Brunette, M. F. & Boynton, R. A. (2000). The relationship between trauma, PTSD and medical utilisation in three high risk populations. *International Journal of Psychiatry in Medicine, 30,* 247-259.

Tangney, J. & Dearing, R. (2002). *Shame and guilt.* New York: Guilford Press.

Tangney, J. & Fischer, K. (Eds). (1995). *Self-conscious emotions: The psychology of shame, guilt, embarrassment and pride.* New York: Guilford Press.

Tangney, J. P., Wagner, P., & Gramzow, R. (1989). *The Test of Self-Conscious Affect.* Fairfax, VA: George Mason University.

Thompson, R. J. & Berenbaum, H. (2006). Shame reactions to everyday dilemmas are associated with depressive disorder. *Cognitive Therapy and Research, 30,* 415-425.

Tibbo P., Swainson J., Chue P & LeMelledo J. M. (2003). Prevalence and relationship to delusions and hallucinations of anxiety disorders in schizophrenia. *Depression and Anxiety, 17,* 65–72.

Trower, P., Birchwood, M., Meaden, A., Byrne, S., Nelson, A. & Ross, K. (2004). Cognitive therapy for command hallucinations: A randomised control trial. *British Journal of Psychiatry, 184,* 312-320.

Weiss, D. S. & C.R. Marmar, C. R. (1997). The Impact of Event Scale-Revised. In: Wilson, J. P. & Keane, T. M. (Eds), *Assessing psychological trauma and PTSD: A handbook for practitioners*, Guilford Press; New York, 399–411.

World Health Organisation. (2007). *International Classification of Mental and Behavioural Disorders 10th Revision.* Geneva.

Appendix 1

Confirmation of ethics approval

Appendix 2

Participant Information Sheet

Appendix 3

Consent Form

Appendix 4

Research Measures

Experience of Shame Scale

Identification number …… Date……. Age…….

Sex …….. Age…….. Ethnicity……

Everybody at times can feel embarrassed, self-conscious or ashamed. These questions are about such feelings if they have occurred **at any time in the past year**. There are no 'right' or 'wrong' answers. Please indicate the response which applies to you with a tick.

	Not at all	**A little**	**Moderately**	**Very much**
1. Have you felt ashamed of any of your personal habits?				
2. Have you worried about what other people think of any of your personal habits?				
3. Have you tried to cover up or conceal any of your personal habits?				
4. Have you felt ashamed of your manner with others?				
5. Have you worried about what other people think of your manner with others?				
6. Have you avoided people because of your manner?				
7. Have you felt ashamed of the sort of person you are?				
8. Have you worried about what other people think of the sort of person you are?				
9. Have you tried to conceal from others the sort of person you are?				
10. Have you felt ashamed of your ability to do things?				
11. Have you worried about what other people think of your ability to do things?				
12. Have you avoided people because of your inability to do things?				
13. Do you feel ashamed when you do something wrong?				
14. Have you worried about what other people think of you when you do something wrong?				
15. Have you tried to cover up or conceal things you felt ashamed of having done?				

	Not at all	A little	Moderately	Very much
16. Have you felt ashamed when you said something stupid?				
17. Have you worried about what other people think of you when you said something stupid?				
18. Have you avoided contact with anyone who knew you said something stupid?				
19. Have you felt ashamed when you failed at something which was important to you?				
20. Have you worried about what other people think of you when you fail?				
21. Have you avoided people who have seen you fail?				
22. Have you felt ashamed of your body or any part of it?				
23. Have you worried about what other people think of your appearance?				
24. Have you avoided looking at yourself in the mirror?				
25. Have you wanted to hide or conceal your body or any part of it?				

Internalized Shame Scale (ISS)

Identification number ……Date…….

Directions: Below is a list of statements describing feelings or experiences that you may have had from time to time or that are familiar to you because you have had these feelings and experiences for a long time. Most of these statements describe feelings and experiences that are generally painful or negative in some way. Some people will seldom or never have had these feelings. Everyone has had some of these feelings at some time, but if you find that these statements describe the way that you feel a good deal of the time, it can be painful just reading them. Try to be as honest as you can in responding.

Read each statement carefully and circle the number to the left of the item that indicates the frequency with which you find yourself feeling or experiencing what is being described in the statement. Use the scale below. DO NOT OMIT ANY ITEM.

SCALE

0	1	2	3	4
NEVER	SELDOM	SOMETIMES	OFTEN	ALMOST ALWAYS

	SCALE
1. Due to my illness or breakdown, I feel like I am never quite good enough.	0 1 2 3 4
2. Due to my illness or breakdown, I feel somehow left out.	0 1 2 3 4
3. Due to my illness or breakdown, I think that people look down on me.	0 1 2 3 4
4. Despite my illness or breakdown, all in all, I think that I am a success.	0 1 2 3 4
5. Due to my illness or breakdown, I scold myself and put myself down.	0 1 2 3 4
6. Due to my illness or breakdown, I feel insecure about other's opinions of me.	0 1 2 3 4
7. Due to my illness or breakdown, compared to other people I feel like I somehow never measure up.	0 1 2 3 4
8. Due to my illness or breakdown, I see myself as being very small and insignificant.	0 1 2 3 4

SCALE

0	1	2	3	4
NEVER	SELDOM	SOMETIMES	OFTEN	ALMOST ALWAYS

9. Despite my illness or breakdown, I feel I have much to be proud of. 0 1 2 3 4

10. Due to my illness or breakdown, I feel intensely inadequate and full of self-doubt. 0 1 2 3 4

11. Due to my illness or breakdown, I feel as if I am somehow defective as a person like there is something basically wrong with me. 0 1 2 3 4

12. Due to my illness or breakdown, when I compare myself to others I am just not as important. 0 1 2 3 4

13. Due to my illness or breakdown, I have an overpowering dread that my faults will be revealed in front of others. 0 1 2 3 4

14. Despite my illness, I feel I have a number of good qualities. 0 1 2 3 4

15. Due to my illness or breakdown, I see myself striving for perfection only to continually fall short. 0 1 2 3 4

16. Due to my illness or breakdown, I think that others are able to see my defects. 0 1 2 3 4

17. Due to my illness or breakdown, I could beat myself over the head with a club when I make a mistake. 0 1 2 3 4

18. Despite my illness, on the whole I am satisfied with myself. 0 1 2 3 4

19. Due to my illness or breakdown, I would like to shrink away when I make a mistake. 0 1 2 3 4

20. Due to my illness or breakdown, I replay painful events over and over in my mind until I am overwhelmed. 0 1 2 3 4

21. Despite my illness, I feel I am a person of worth at least on an equal plane with others. 0 1 2 3 4

22. Due to my illness or breakdown, at times I feel like I will break into a thousand pieces. 0 1 2 3 4

SCALE

0	1	2	3	4
NEVER	SELDOM	SOMETIMES	OFTEN	ALMOST ALWAYS

23. Due to my illness or breakdown, I feel as if I have lost control over my body functions and my feelings. 0 1 2 3 4

24. Due to my illness or breakdown, sometimes I feel no bigger than a pea. 0 1 2 3 4

25. Due to my illness or breakdown, at times I feel so exposed that I wish the earth would open up and swallow me up. 0 1 2 3 4

26. Due to my illness or breakdown, I have this painful gap within me that I have not been able to fill. 0 1 2 3 4

27. Due to my illness or breakdown, I feel empty and unfulfilled. 0 1 2 3 4

28. Despite my illness, I take a positive attitude toward myself. 0 1 2 3 4

29. Due to my illness or breakdown, my loneliness is more like emptiness. 0 1 2 3 4

30. Due to my illness or breakdown, I feel like there is something missing. 0 1 2 3 4

OAS SCALE

We are interested in how people think others see them. Below is a list of statements describing feelings or experiences about how you may feel other people see you.

Read each statement carefully and circle the number to the right of the item that indicates the frequency with which you find yourself feeling or experiencing what is described in the statement. Use the scale below.

0 = NEVER 1 = SELDOM 2 = SOMETIMES 3 = FREQUENTLY 4=ALMOST ALWAYS

1. Due to my illness or breakdown, I feel other people see me as not good enough 0 1 2 3 4

2. Due to my illness or breakdown, I think that other people look down on me 0 1 2 3 4

3. Due to my illness or breakdown, other people put me down a lot. 0 1 2 3 4

4. Due to my illness or breakdown, I feel insecure about others opinions of me. 0 1 2 3 4

5. Due to my illness or breakdown, other people see me as not measuring up to them. 0 1 2 3 4

6. Due to my illness or breakdown, other people see me as small and insignificant. 0 1 2 3 4

7. Due to my illness or breakdown, other people see me as somehow defective as a person. 0 1 2 3 4

8. Due to my illness or breakdown, people see me as unimportant compared to others. 0 1 2 3 4

9. Due to my illness or breakdown, other people look for my faults. 0 1 2 3 4

10. Due to my illness or breakdown, people see me as striving for perfection but being unable to reach my own standards. 0 1 2 3 4

11. Due to my illness or breakdown, I think others are able to see my defects. 0 1 2 3 4

12. Due to my illness or breakdown, others are critical or punishing when I make a mistake. 0 1 2 3 4

13. Due to my illness or breakdown, people distance themselves from me when I make mistakes. 0 1 2 3 4

14. Due to my illness or breakdown, other people always remember my mistakes. 0 1 2 3 4

15. Due to my illness or breakdown, others see me as fragile. 0 1 2 3 4

16. Due to my illness or breakdown, others see me as empty and unfulfilled. 0 1 2 3 4

17. Due to my illness or breakdown, others think there is something missing in me. 0 1 2 3 4

18. Due to my illness or breakdown, other people think I have lost control over my body and feelings. 0 1 2 3 4

BDI-II

Impact of Events Scale - Revised

Identification number ……Date…….

Please think back to the time of your "illness" or "breakdown". What do you think was the most difficult or distressing period or point? For example some people feel that some of the things they experienced or believed at the time were the most distressing, whereas others feel that the treatment they received was the most distressing. Thinking back to your own experience, what do you think was the most difficult or distressing period or point in your "illness" or "breakdown"?

EVENT: I had _____ When? _____

Please read each item, and then indicate how much you were distressed or bothered by any such difficulties during the past week in relation to the **EVENT** you have indicated above.

	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Any reminder brought feelings back about it.	0	1	2	3	4
2. I had trouble staying asleep.	0	1	2	3	4
3. Other things kept making me think about it.	0	1	2	3	4
4. I felt irritable and angry.	0	1	2	3	4
5. I avoided letting myself get upset when I thought about it or was reminded of it.	0	1	2	3	4
6. I thought about I when I didn't mean to.	0	1	2	3	4
7. I felt as if it had not happened or was not real.	0	1	2	3	4
8. I stayed away from reminders of it.	0	1	2	3	4
9. Pictures about it popped into my head.	0	1	2	3	4
10. I was jumpy and easily startled.	0	1	2	3	4
11. I tried not to think about it.	0	1	2	3	4
12. I was aware that I still had a lot of feelings about it, but I didn't deal with them.	0	1	2	3	4

	Not at all	A little bit	Moderately	Quite a bit	Extremely
13. My feelings about it were kind of numb.	0	1	2	3	4
14. I found myself acting or feeling as though I was back at that time.	0	1	2	3	4
15. I had trouble falling asleep.	0	1	2	3	4
16. I had waves of strong feelings about it.	0	1	2	3	4
17. I tried to remove it from my memory.	0	1	2	3	4
18. I had trouble concentrating.	0	1	2	3	4
19. Reminders of it caused me to have physical reactions, such as sweating, trouble breathing, nausea, or a pounding heart.	0	1	2	3	4
20. I had dreams about it.	0	1	2	3	4
21. I felt watchful or on guard.	0	1	2	3	4
22. I tried not to talk about it.	0	1	2	3	4

Perception of Helplessness, Control and Crisis Support Scale.

Thinking back to the time period in your 'illness' or 'breakdown' that you previously identified as most distressing, please answer the following questions.

1. I thought I was going to die.

1	2	3	4	5	6	7
Strongly Agree	Agree	Agree a Little	Neither agree nor disagree	Disagree a little	Disagree	Strongly Disagree

2. I felt paralysed with fear.

1	2	3	4	5	6	7
Strongly Agree	Agree	Agree a Little	Neither agree nor disagree	Disagree a little	Disagree	Strongly Disagree

3. I felt helpless.

1	2	3	4	5	6	7
Strongly Agree	Agree	Agree a Little	Neither agree nor disagree	Disagree a little	Disagree	Strongly Disagree

4. I prepared myself for the worst.

1	2	3	4	5	6	7
Strongly Agree	Agree	Agree a Little	Neither agree nor disagree	Disagree a little	Disagree	Strongly Disagree

5. I felt in control of myself.

1	2	3	4	5	6	7
Strongly Agree	Agree	Agree a Little	Neither agree nor disagree	Disagree a little	Disagree	Strongly Disagree

6. I felt that I should have been able to control my thoughts but I couldn't.

1	2	3	4	5	6	7
Strongly Agree	Agree	Agree a Little	Neither agree nor disagree	Disagree a little	Disagree	Strongly Disagree

7. This experience may happen again and there is nothing I can do.

1	2	3	4	5	6	7
Strongly Agree	Agree	Agree a Little	Neither agree nor disagree	Disagree a little	Disagree	Strongly Disagree

8. I felt that I was in control while I was in hospital / during intensive treatment.

1	2	3	4	5	6	7
Strongly Agree	Agree	Agree a Little	Neither agree nor disagree	Disagree a little	Disagree	Strongly Disagree

9. Whenever I wanted to talk, there was someone willing to listen.

1	2	3	4	5	6	7
Strongly Agree	Agree	Agree a Little	Neither agree nor disagree	Disagree a little	Disagree	Strongly Disagree

10. I have personal contact with other people who shared a similar experience to me.

1	2	3	4	5	6	7
Strongly Agree	Agree	Agree a Little	Neither agree nor disagree	Disagree a little	Disagree	Strongly Disagree

11. I was able to talk about my thoughts and feelings about my experience.

1	2	3	4	5	6	7
Strongly Agree	Agree	Agree a Little	Neither agree nor disagree	Disagree a little	Disagree	Strongly Disagree

12. People were sympathetic and supportive of my experience.

1	2	3	4	5	6	7
Strongly Agree	Agree	Agree a Little	Neither agree nor disagree	Disagree a little	Disagree	Strongly Disagree

13. People were helpful in a practical sort of way.

1	2	3	4	5	6	7
Strongly Agree	Agree	Agree a Little	Neither agree nor disagree	Disagree a little	Disagree	Strongly Disagree

14. People I expected to be supportive made me feel worse.

1	2	3	4	5	6	7
Strongly Agree	Agree	Agree a Little	Neither agree nor disagree	Disagree a little	Disagree	Strongly Disagree

15. I am satisfied with the support I received.

1	2	3	4	5	6	7
Strongly Agree	Agree	Agree a Little	Neither agree nor disagree	Disagree a little	Disagree	Strongly Disagree

Appendix 5

Journal Instructions to Authors

Appendix 6

Public Domain Briefing Document

Public Domain Briefing Document

Post-Psychotic Trauma: Contributory Factors and Interventions

This thesis was submitted as part of the Doctorate in Clinical Psychology at the School of Psychology, University of Birmingham. This document will describe Volume 1 that comprises of two parts; a review of the literature and a research or empirical study.

Literature review

The first part of the review investigated why some people experience symptoms of posttraumatic stress disorder (PTSD) following the onset of a psychotic illness. In a recent article it was concluded that approximately 50% of people with psychosis will have levels of PTSD symptoms that can affect their everyday functioning. PTSD can occur following exposure to a traumatic event. People with psychosis experience a number of traumatic symptoms, for example hearing voices that are critical or command them to hurt themselves. They may also have a strongly held belief (delusion) that may involve powerful entities (such as the government or devil) that the person believes wants to control or harm them. The person could have experiences related to their treatment that are traumatic, such as being forcibly taken to hospital or restrained whilst they are there. The current review addressed the question of whether such experiences could cause symptoms of PTSD and it was concluded from the evidence of previous studies that it could. However, not all people with psychosis who are similarly exposed to a traumatic event will develop PTSD symptoms. The review found that the nature of the experience itself was less important, in other words no specific treatment experience or symptom was more likely to cause PTSD. Instead what the person thought about what had occurred was more important in predicting PTSD. For example if the person felt less in control or more helpless or fearful at the time of the event then they were more likely to show symptoms of PTSD in relation to it. More research is needed into these mediating factors.

The second part of the review evaluated psychological interventions or therapies specifically aimed at reducing symptoms of PTSD in people with a severe mental illness (SMI), such as psychosis. There were relatively few studies that had developed and evaluated interventions. Researchers generally recognised that people with a SMI had a unique set of needs that meant

therapies that were successful with other groups of people would need to be adapted for use with people with SMI. There were three main studies that developed structured therapy programmes, with each using a different intervention. All showed promising results in reducing symptoms of PTSD, but only one (that used cognitive structuring as the main component) also significantly reduced symptoms of anxiety and depression. There was also a study that showed writing about the experience of psychosis could reduce PTSD symptoms. The people who took part in the studies were different; with some having people with a more severe, long-term illness and others with people who were in the early stages. The studies also included a number of different components as part of their treatment programme and it was not clear which was the most effective. Future research is needed to investigate this and if certain interventions are more suitable for certain groups of people. Future research should also follow people over a long period of time to see if the benefits are maintained over time.

Empirical paper

Background: The aim of the study was to look at the relationship between shame, depression and symptoms of PTSD in people with psychosis. The people who took part were in the relatively early stages of their illness (within three years of a diagnosis). Shame is thought of as a powerful emotion related to a person seeing themselves as inferior or undesirable in some way. Shame can be related to how we see ourselves (internal shame) or how we think others see us (external shame). Shame has been shown to play a role in a number of disorders including depression and more recently PTSD. As previously discussed, it has been shown that people with psychosis have high levels of PTSD symptoms and also depression. There is evidence that having a mental illness such as psychosis carries a severe social stigma that results in shame. Two studies have shown high levels of shame to be associated with high levels of PTSD symptoms in people who are not in mental health services and also in people who were seeking treatment for PTSD. The relationship has not been investigated in people with psychosis. The current study also looked at the effect of certain factors that occurred whilst the person was unwell on symptoms of PTSD, namely the level of social support they felt they had and how in control and helpless they perceived they were. These three factors were chosen because a previous research study had shown them to be related to symptoms of PTSD in people with a longer term diagnosis of psychosis.

Method: Fifty people who were in the recovery stage following an episode of psychosis were asked to complete some assessments. They were asked to identify what had been the most traumatic experience that had occurred whilst they were psychotic and then it was looked to see if they had any current symptoms of PTSD in relation to this. Participants completed questionnaires about if they felt any internal or external shame as a result of having a mental health problem. They were also asked about general shame, current depression and the factors that occurred at the time they were unwell (perceived helplessness, control and social support).

Results: It was found that a significant proportion (34%) of people with psychosis had high levels of depression and symptoms of PTSD related to a distressing event that happened whilst they were unwell. Half of the participants said that a symptom of psychosis such as a voice or delusion was the most distressing experience. The majority of the other participants identified an experience related to going into hospital or something that they had done whilst they were unwell as the mot distressing. People who had higher levels of depression and symptoms of PTSD related to their illness also had higher levels of shame. Internal shame was found to have a stronger relationship with depression, whilst external and general shame had a stronger relationship with symptoms of PTSD. How helpless or in control a person felt did not have any significant effect on the level of PTSD symptoms that they experienced. However, those who felt that they had more support from other people whilst they were unwell had lower levels of some types of PTSD symptoms.

Conclusions: The study confirmed that internal, external and general shame are different types of shame because they have a different relationship with depression and PTSD symptoms. This has implications for other researchers when they investigate shame as currently many only look at shame overall and do not differentiate between the different types. It also highlighted that people with psychosis experience high levels of distress; including depression, shame about their illness and traumatic symptoms. Currently there are not many interventions that look to reduce these factors in people with psychosis. The current study highlights the need to do further research and develop psychological therapies for people with psychosis that will aim to reduce depression, shame and PTSD symptoms.